

Obs. Species a præcedentibus ventre grisescente et fasciis alarum ochraceis distinguenda.

After a critical examination of many specimens of this bird, I have come to the conclusion that there is only one species of wide distribution. The original Mexican skin of *Camptostoma imberbe* is much worn and faded and has an injured bill. But Mr. Salvin's Central-American skins can hardly be distinguished from Brazilian skins except by their rather smaller size. The specimens from Western Ecuador have a paler rump; but this is perhaps attributable to immaturity.

4. ORNITHION OBSOLETUM.

Muscicapa obsoleta, Temm. Pl. Col. 275. fig. 1; Lafr. et D'Orb. Syn. Av. i. p. 52.

Elainea obsoleta, Burm. Syst. Ueb. ii. p. 480.

Myiopatis obsoleta, Cab. et Hein. Mus. Hein. ii. p. 58; Pelz. Orn. Bras. p. 106.

Simile præcedenti, sed major, et supra, nisi in pileo, olivaceo perfusum: long. tota 4, alæ 2·2, caudæ 1·8.

Hab. S. Brazil; San Paulo, Parana and Goyaz (*Natt.*).

7. On the *Cuculidæ* of the Ethiopian Region. By R. BOWDLER SHARPE, F.L.S., F.Z.S., Senior Assistant, Zoological Department, British Museum.

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Africa is especially rich in scansorial birds. Besides monopolizing the *Musophagidæ*, she constitutes the metropolis of the *Indicatoridæ*, and has likewise a large number of the *Capitonidæ* peculiar to herself. But her *Cuculidæ* are not exclusively her own; for Europe, Asia, and Australia claim some representatives of the same genera: indeed all the forms of Cuculine birds found in Africa are represented by the same or by closely allied genera in other parts of the Old World; and in the case of the *Cuculidæ* Africa exhibits no Neogæan affinities.

Setting aside the typical genus *Cuculus*, which is found over the greater part of the Old World, the affinities of the African Cuckoo's unquestionably incline to those of the Indian and Australian regions, through the genus *Centropus*, being more particularly connected with the former in the genera *Coccytes* and *Ceuthmochares*. The Mascarene Islands exhibit decidedly Indian affinities; for a *Cuculus* occurs within their limits which is almost indistinguishable from a Himalayan species, and is considered by more than one naturalist of position to be absolutely inseparable from its Indian ally. *Cochlosthraustes* is also a Centropodine genus; but at the same time the large and important genus *Sericosomus* is entirely restricted to the Mascarene subregion.

For present purposes it will be sufficient to make two divisions of

the African *Cuculidæ*, which seem to me to rest on natural characters, and I therefore divide them into two subfamilies, viz. *Cuculinæ* and *Phœnicophainæ**. The former have feathered legs and weak feet, but excel in their powerful flight, while the latter are creeping bush-haunting birds, many of them frequenting the ground. They may be divided by the following characters:—

- a. Tarsi feathered anteriorly; thigh-feathers long, hiding the tarsus, as in the birds of prey; nostrils swollen *Cuculinæ*.
- b. Tarsi robust and naked, or only feathered on the upper part; thigh-feathers ordinary; nostrils not swollen..... *Phœnicophainæ*.

All the birds included by me in the first subfamily have accipitrine thigh-feathers, and present another point of importance in the swollen nostril, which is sufficiently distinct in the dried skin. I cannot find any character in the genus *Chrysococcyx* to justify its separation from *Cuculus*, beyond the metallic plumage: this, however, does not seem to me to be of sufficient importance; for even on species of true *Cuculus* a slightly glossy shade is visible, and the glittering dress of the African species is approached by gradual gradations exhibited in the Australian members, which have usually been called *Lamprococcyx*.

The *Cuculinæ* have the nasal opening surrounded by a swollen membrane, rounded in *Cuculus*, a little more oval in *Coccystes*. These differences are, I think, well pronounced; though it is much to be regretted that collectors are so careless about the preservation of the nostrils of their specimens, thus rendering obsolete a very important element in the classification of birds. In addition to the shape of the nostril, the lanceolate crest of *Coccystes* is a further distinguishing character.

Subfam. 1. CUCULINÆ.

Key to the genera.

- a. Nostrils swollen, rounded; no crest 1. *Cuculus*.
- b. Nostrils oval; a distinct lanceolate occipital crest 2. *Coccystes*.

Genus 1. CUCULUS.

Key to the species.

- A. Plumage not conspicuously metallic.
 - a. Breast white, barred with black.
 - a'. Upper mandib'le black, as also the nostrils; lower mandible yellow.
 - a''. Throat and upper breast ashy grey.
 - a'''. Much larger; above ashy grey, as also the wings 1. *canorus*.
 - b'''. Smaller; above blackish grey, the wings uniform with back 2. *rochi*.
 - b''. Upper breast ferruginous.
 - c'''. Throat ashy grey 3. *solitarius*.
 - d'''. Throat bright ferruginous, as also the whole of the upper breast..... 4. *gabonensis*.

* With respect to the Old-World Cuckoos, I see no reason to separate the *Centropodine* from the *Phœnicophainæ*, and I therefore adopt the latter term on the score of priority.

- b'*. Bill black only towards the tip, both the upper and under mandibles yellow, as also the nostrils.
a''. Larger, the throat entirely ashy grey; the breast bright rufous; under wing-coverts washed with rufous 5. *aurantiistrotris*.
b''. Smaller; the throat entirely ashy grey, the upper breast slightly tinged with rufous; under wing-coverts white 6. *gularis*.
b. Breast black 7. *clamosus*.
B. Plumage beautifully metallic.
a. Abdomen bright yellow 8. *smaragdineus*.
b. Abdomen white; flanks banded.
a''. Larger; tail metallic greenish blue, spotted with white 9. *cupreus*.
b''. Smaller; tail white, spotted with coppery green 10. *klaasi*.

Fig. 1.

Head and leg of *Cuculus canorus*.

1. CUCULUS CANORUS*.

Cuculus canorus, Linn. Syst. Nat. i. p. 168 (1766); Rüpp. Syst.

* The plate 390 of the 'Planches Enluminées,' hitherto considered to represent *Cuculus solitarius*, on which it has imposed the priority of its name, seems

Uebers. p. 96 (1845); Heugl. Syst. Uebers. p. 48 (1856); Hartl. Orn. Westafr. p. 266 (1857); Heugl. Peterm. Mitth. 1861, p. 26; Bocage, Journ. Lisb. ii. p. 45 (1868); Finsch, Tr. Zool. Soc. vii. p. 286 (1870); Blanf. Geol. and Zool. Abyss. p. 312 (1870); Sharpe, Cat. Afr. B. p. 12 (1871); Gurney, Ibis, 1871, p. 103; Heugl. Orn. N. O. Afr. p. 780 (1872); Shelley, B. of Egypt, p. 162 (1872); Sharpe, Ibis, 1872, p. 67; Anderss. B. Damara Land, ed. Gurney, p. 227 (1872).

Coucou vulgaire d'Europe, Levaill. Ois. d'Afr. v. pl. 202, 203 (1806); Sundev. Crit. om Levaill. p. 47 (1858).

Cuculus gularis, Gurney, Ibis, 1859, p. 246.

Coucou du Cap de Bonne Espérance, Buff. Pl. Enl. vi. pl. 390, et Hist. Nat. Ois. vi. p. 353.

Cuculus capensis, Müll. Syst. Nat. Suppl. p. 90 (1776); Gm. S. N. i. p. 410 (1788); Lath. Ind. Orn. i. p. 208 (1790); Steph. Gen. Zool. ix. pt. i. p. 85 (1815); Cass. Proc. Phil. Acad. 1864, p. 243.

Cape-Cuckow, Lath. Gen. Syn. i. pt. 2, p. 513 (1782).

Adult male. Above ashy grey, much darker on the back, where it is glossed slightly with greenish; the head, rump, and upper tail-coverts much paler grey; wing-coverts dark grey, with scarcely any greenish gloss; quills brownish, the secondaries slightly glossed with greenish in some lights, the inner web broadly and numerously barred with white, these white bars, however, not occupying more than two thirds of the quill; tail blackish, tipped with white, the centre feathers showing an indication of a tiny white spot along the shaft, a little plainer on the three outer ones, becoming larger towards the outermost, the four external feathers also minutely spotted with white on the inner web, these also increasing in size towards the outer feather, at the base of which they form irregular bars; sides of the face, entire throat, and fore neck pale blue-grey; rest of the under surface of the body white, transversely barred with rather narrow lines of greyish black; vent and under tail-coverts whiter, indistinctly barred with blackish, the bars on the longer tail-coverts broader, but further apart; under wing-coverts white, shading into greyish on the edge of the wing and lower coverts; bill horn-black, with a little yellow at the gape and on the base of the lower mandible; feet yellow, nails brownish; iris and eyelid yellow. Total length 13 inches, culmen 1.15, wing 8.8, tail 7.5, tarsus 0.9.

Hab. N.E. AFRICA: Egypt (*G. E. Shelley*); Bogos Land (*Blanford, Jesse, Esler*); Lower Nubia, in March (*Hartmann*); New Dongola, in September; Old Dongola, in April; N. Senaar, in May (*von Heuglin*). W. AFRICA: Fantee (*Swanzy, Mus. Brit.*); Connor's Hill, Cape Coast, November 2nd, 1870 (*Ussher*); St. Thomas (*Weiss*). S.W. AFRICA: Otjimbingue, Damara Land,

to me to be referable to the hepatic phase of *C. cancrus*, of which I have a Damara specimen in the same plumage; and Levaillant's suggestion that it is a young *C. solitarius* will not stand the comparison of specimens. I therefore add its synonymy to *C. canorus*.

February 1865 (*Andersson*); Ondonga, Ovampo, December 1866 (*Andersson*); Biballa (*Anchieta*). S. AFRICA: Natal (*Ayres*).

2. CUCULUS ROCHI.

Cuculus canorus, Desjard. P. Z. S. 1832, p. 111.

Cuculus rochii, Hartl. P. Z. S. 1862, p. 224 (deser. orig.); Roch & Newt. Ibis, 1863, p. 166; E. Newt. Ibis, 1863, p. 453; Schl. P. Z. S. 1866, p. 424; Schl. & Poll. Faun. Madag. Ois. p. 53 (1868); Gray, Hand-l. B. ii. p. 215 (1870); Sharpe, P. Z. S. 1870, p. 399; id. Cat. Afr. B. p. 12 (1871).

Cuculus himalayanus, Grand. Rev. et Mag. de Zool. 1867, p. 418.

Adult. Above dark cindery grey, the lores a little tinged with brownish, the middle of the back and scapulars glossed in certain lights with dull greenish; lower back and rump more decidedly ashy, the shafts of all the feathers glossy black, and the feathers themselves obsoletely waved in certain lights; wing-coverts coloured like the back, and glossed with dull greenish in the same manner, excepting the spurious wing, the feathers of which are externally white, thus showing a little white patch on the upper edge of the wing; quills glossy brown, externally shaded with greenish, the inner web broadly barred with white; tail glossy black, tipped with white, the two centre feathers marked with a series of equidistant narrow longitudinal white spots along the shaft, the other feathers similarly marked, but the spots rather larger and rounder on the outer feathers, on the inner webs of which appear likewise some irregular white spots, increasing in size and extent towards the outermost feathers, taking at the base of the latter the form of irregular bars, shafts blackish above, white below; cheeks and throat bluish grey, lighter than the head; rest of under surface creamy white, transversely barred with greyish black; vent and under tail-coverts deep ochraceous buff, the long coverts broadly barred with blackish, the shorter ones less distinctly; under wing-coverts creamy white, with narrow blackish cross bars; edge of the wing greyish; bill black, yellow at base of lower mandible; gape, orbits, and feet yellow, claws blackish; iris orange yellow. Total length 12 inches, culmen 0.95, wing 6.7, tail 6.0, tarsus 0.7.

Hab. Madagascar (*Roch* and *Newton*, *Crossley*); ? Mauritius, Port Louis (*E. Newton*).

Although closely allied to *C. poliocephalus* (Hand-l. 8990. *C. himalayensis*), this Cuckoo seems to me to be a distinct species. It is much darker above, and is not so broadly banded underneath, the white interspaces being wider.

3. CUCULUS SOLITARIUS.

Le Coucou solitaire, Levaill. Ois. d'Afr. v. pl. 206 (1806); Sundev. Crit. om Levaill. p. 47 (1858).

Cuculus solitarius, Steph. Gen. Zool. ix. pt. 1, p. 84, pl. 18 (1815); Gurney, Ibis, 1860, p. 213; Layard, B. S. Afr. p. 248 (1867).

Cuculus rubiculus, Swains. B. W. Afr. ii. p. 181 (1837, *descr. orig.*); Fraser, P. Z. S. 1843, p. 52; Hartl. Orn. W. Afr. p. 190 (1857); id. J. f. O. 1861, p. 264; Cab. & Heine, Mus. Hein. iv. p. 40 (1862); Mont. P. Z. S. 1865, p. 92; Sharpe, Ibis, 1870, p. 486; id. Cat. Afr. B. p. 12 (1871).

Cuculus capensis, Gray, Gen. B. ii. p. 463 (1847); Grill, Zool. Ant. p. 41 (1858); Cab. & Heine, Mus. Hein. Th. iv. p. 42 (1862); Bp. Consp. i. p. 104 (1850); Schl. Mus. P. B. *Cuculi*, p. 11 (1864); Antin. Cat. descr. Ucc. p. 83 (1865); Gray, Hand-l. B. ii. p. 215 (1870); Heugl. Orn. N. O. Afr. p. 783 (1871); Sharpe, Cat. Afr. B. p. 12 (1871).

Surniculus rubiculus, Bp. Consp. i. p. 105 (1850).

Cuculus heuglinii, Cab. & Heine, Mus. Hein. Th. iv. p. 42 (1862).

Adult. Above greyish, with a slight gloss of oily green on the scapulars and secondary feathers, the rump and upper tail-coverts darker and inclining to cindery grey; quills brown, barred with white near the base of the inner web; tail purplish black, glossed with greenish near the base, tipped with white and marked with one or two white spots along the shafts of the feathers, the inner web also slightly marked with white on its edge; throat clear bluish-grey; fore neck deep ferruginous, with slight indications of blackish cross bars; rest of under surface fulvous white, banded with blackish, inclining to clear fawn on the under tail-coverts, where the cross bars are narrower and more zig-zag in shape; bill horn-black, yellowish at base of lower mandible and along basal edge of upper one; feet deep orange, claws yellowish; iris reddish hazel.

Young. Above ashy brown, the wing-coverts and secondaries edged and the primaries externally barred with rusty; upper tail-coverts spotted and irregularly barred with rusty; tail blackish brown, tipped and spotted with whitish on each side of the shaft, the feathers also showing faint indications of rufous cross bars; lores and cheeks whitish, mottled with blackish and tinged with rufous; throat and chest whitish, strongly washed with rusty and minutely crossed with very narrow blackish bars; rest of under surface buffy white with cross bars of black, inclining to clear fawn on the under tail-coverts, where the black bars are narrower; under wing-coverts white, with blackish cross markings, the bases of the primaries white, some of the feathers also notched with white near the base; bill horn-black, greenish yellow on lower mandible; feet dull yellowish.

Hab. W. AFRICA: Fantee (*Ussher*); Accra (*Haynes*). S.W. AFRICA: Benguela (*Monteiro*). S. AFRICA: Natal (*Ayres*); Knysna (*Victorin*); Cape Colony up to immediate vicinity of Cape Town (*Layard*)*.

I have come to the conclusion that there is no difference between *Cuculus rubeculus* and *C. capensis*, though I once (Ibis, 1870, p. 486)

* Its occurrence in Senegal, on Swainson's authority, is untrustworthy; and it is doubtful if it is found in N.E. Africa, though, as Heuglin remarks, "Antinori seems to have observed it on the Gazelle River" (*Cf. Salvadori, Atti R. Accad. Tor. 1870, p. 744*).

thought that the longer wing of the latter might hold good as a specific character. That it does not do so will be seen by the following measurements:—

No.	Locality.	E Mus.	Long. tot.	Ala.
1.	Cape.	Brit. Reg.	11·5	7·0
2.	S. Africa.	„	11·5	7·2
3.	„	R. B. Sharpe.	12·0	6·8
4.	„ (Layard).	„	11·5	6·8
5.	„	„	12·0	6·8
6.	Cape Town (Butler).	„	12·0	7·1
7.	„	„	12·1	7·0
8.	Natal (Ayres).	J. H. Gurney.	11·2	6·9
9.	„	Brit. Reg.	10·5	6·5
10.	Accra (Haynes).	R. B. Sharpe.	11·5	6·4
11.	Fantec.	„	11·7	7·0
12.	„	„	11·2	6·4

4. CUCULUS GABONENSIS.

Cuculus gabonensis, Lafr. Rev. et Mag. de Zool. 1853, p. 60; Hartl. J. f. O. 1854, p. 202; J. & E. Verr. Rev. et Mag. de Zool. 1855, p. 177; Hartl. Orn. W. Afr. p. 189 (1857); Cass. Pr. Phil. Acad. 1859, p. 142; Hartl. J. f. O. 1861, p. 265; Du Chaillu, Eq. Afr. p. 473 (1861); Cab. & Heine, Mus. Hein. Th. iv. p. 42, note (1862); Gray, Hand-l. B. ii. p. 215 (1870).

Adult. Above dark greyish black, with a very slight gloss of dull bluish-green; quills brown, glossed like the back, a few of the primaries marked with white near the base of the inner web; tail blackish, tipped with white and marked with a few spots of white along the shaft; lores mottled with rufous; fore part of the cheeks and a line of feathers under the eye greenish black, like the head; entire throat, chest, and fore neck deep cinnamon-chestnut or bay, forming a conspicuous gorget, below which a few black feathers form an indistinct band; rest of under surface buffy white, transversely crossed with blackish bars, which are slightly glossed with greenish on the flanks; under tail-coverts creamy white, some of the centre ones barred with black; feathers at the side of the vent greenish black; under wing-coverts white, barred with black like the breast, the greater ones entirely black; bill blackish brown; feet golden yellow, claws horn-brown. Total length 11·5 inches, culmen 0·9, wing 6·8, tail 6·2, tarsus 0·75.

Hab. Gaboon (*Verreaux, Mus. Brit.*); Camma River (*Du Chaillu*).

5. CUCULUS AURANTIROSTRIS, sp. n.

Cuculus gularis, Hartl. Orn. W. Afr. p. 189 (1857).

Above rather dark grey, with a slight greenish gloss in the centre of the back, the rump and upper tail-coverts scarcely lighter, the latter with a narrow white tip; wing-coverts of the same colour as

the back, some of the greater ones slightly inclining to brownish, with a narrow white margin; a conspicuous patch of white feathers along the edge of the wing; quills brownish, washed externally with grey, the secondaries much darker on the inner web, where they are slightly glossed with greenish and narrowly margined with white; the inner webs of all the feathers white at the base, this colour extending uninterruptedly for nearly half the feather, and broken towards its apical extent by a few more or less interrupted bars of greyish brown; tail greyish brown, with a decided wash of clearer grey on the outer web, all the feathers tipped with white, the outer ones very broadly, with a distinct blackish bar crossing the tail just before the white tip, the centre feathers longitudinally spotted with white along the shaft, these spots increasing in size towards the outer feathers, which are also notched with white on the inner web, till on the outermost they form very distinct white bars across the feathers; sides of the face of the same colour as the head; lores, feathers in front of the eye, fore part of cheeks, and entire throat pale bluish grey; lower part of throat and fore neck bright chestnut; rest of under surface buff, strongly shaded with chestnut and crossed with very narrow blackish lines; under tail-coverts uniform rich buff; under wing-coverts buff, with very narrow blackish vermiculations; bill rich orange, blackish along the culmen and towards the tip of both mandibles; feet deep yellow. Total length 13·4 inches, culmen 1·05, wing 8·7, tail 7·0, tarsus 0·95.

Hab. River Gambia (*Mus. R. B. S.*); Casamanze (*Verreaux*).

To the same extent that *Cuculus gularis* differs from *C. canorus* does this new bird differ from *C. gularis*. It might be supposed that a new Cuckoo of this group, coming as it does from Senegambia, must be the true *C. lineatus* of Swainson; but neither his description nor figure agrees at all; and there can be no doubt that, as in the case of *Oriolus capensis* and other birds, he has figured a South-African specimen, and that the species has no business in the list of West-African birds. Like *C. gularis*, the Gambian Cuckoo has the nostrils situated in, and of the same colour as, the yellow portion of the beak; but this is much more brilliantly coloured; hence the name suggested. The chestnut shade on the under parts is another character; while the cross bars on the under surface are very much narrower than in true *C. gularis*.

It is just possible that *C. aurantirostris* may turn out to be the *C. ruficollis* of Heuglin, or *C. leptodetus* of Cabanis and Heine, from North-eastern Africa; and a comparison of types is desirable. The two latter are united without a query to *C. gularis* by von Heuglin. On the other hand, the bird noticed by Hartlaub from Casamanze is clearly *C. aurantirostris*, so that it is by no means improbable that Senegambia has its peculiar species of Cuckoo.

6. CUCULUS GULARIS.

Le Coucou vulgaire d'Afrique, Levaill. Ois. d'Afr. v. pls. 200, 201 (1806); Sundev. Crit. om Levaill. p. 47 (1858).

Cuculus gularis, Steph. Gen. Zool. ix. pt. 1, p. 83, pl. 17 (1815,

ex Levaill.); Bp. Consp. i. p. 102 (1850); id. Consp. Volucr. Zyg. p. 6 (1854); Cab. & Heine, Mus. Hein. iv. p. 36 (1862); Heugl. J. f. O. 1862, p. 35; Layard, B. S. Afr. p. 249 (1867); Gray, Hand-l. B. ii. p. 215 (1870); Heugl. Orn. N. O. Afr. p. 781 (1871); Sharpe, Cat. Afr. B. p. 12 (1871); Gurney ed. Anderss. B. Dam. Ld. p. 228 (1872).

Cuculus capensis, Cuv. Règne An. i. p. 424 (1817, ex Levaill. nec Müll.).

Cuculus lineatus, Sw. B. W. Afr. ii. p. 178, pl. xviii. (1837).

Cuculus ruficollis, Heugl. Syst. Uebers. p. 49 (1856); id. J. f. O. 1864, p. 265.

Cuculus leptodetus, Cab. & Heine, Mus. Hein. Th. iv. p. 34 (1862).

Cuculus canorus (pt.), Schl. Mus. P. B. *Cuculi*, p. 6 (1864).

Adult male. Above bluish grey, rather glossed with brownish on the head and back, and decidedly clearer grey on the rump and upper tail-coverts, the lateral feathers of the last named being transversely spotted and barred with white; wing-coverts dark greyish brown, primary coverts and quills rather darker, especially the secondaries, which are glossed with greyish, the inner webs very distinctly barred with white; tail ashy grey, the outer feathers browner and all tipped with white, before which a distinct blackish bar crosses the end of the tail, this being much more distinct when viewed from underneath; the centre feathers marked with longitudinal drops of white along the shaft, these increasing in extent towards the outer feathers, which are also notched or spotted with white on the inner web, until on the last feather they form more or less perfect bars across the feather; sides of the face and entire throat bluish grey, rather lighter on the lores and fore part of the cheeks, the fore neck tinted with pale russet; remainder of under surface creamy white, transversely barred with greyish brown, these bars becoming more zig-zag in shape on the under tail-coverts; under wing-coverts white, with irregular cross markings of grey; axillary plumes white, barred like the breast; bill yellow on the lower mandible and on the base of the upper one, including the nostrils, becoming blackish on the edge of the culmen and the tip of both mandibles; feet yellow. Total length 12 inches, culmen 1·0, wing 8·5, tail 6·5, tarsus 0·85.

Hab. N.E. AFRICA: White Nile and Sobat; mountains of Wola-Galla, in April; Bari Negro Land, in February and March; Bongo, in August (*Heuglin*). S.W. AFRICA: Damara Land and Ovampo (*Andersson*). S. AFRICA: Caffraria (*Levaillant*); Natal (*Ayres*).

The present species is the resident Cuckoo of a certain part of Africa, representing our Cuckoo so closely that in some instances it is difficult to distinguish between them. Mr. John Henry Gurney, who examined my series, has given (*Ibis*, 1871, p. 103) an account of the differences between the two species; and a prolonged revision of the specimens he examined enables me to confirm his views. The most constant character is to be found in the beak; for whereas

in *C. canorus* the bill is for the most part blackish, in *C. gularis* it is yellow, only becoming black along the ridge and at the tip: thus the birds may always be separated by the nostrils, which are coloured according to the bill in the respective species, being yellow in *C. gularis* and black in *C. canorus*. Another difference exists in the tail; for owing to the great amount of white on that of *C. gularis* and to its forming bars on the outer feather, a very distinct band is observed across the tip of the tail, which is not visible in *C. canorus*. The accompanying woodcut exhibits the difference in the outer tail-feathers of the two Cuckoos, and shows the bar in *C. gularis*, which is found on all the other feathers.

Fig. 2.

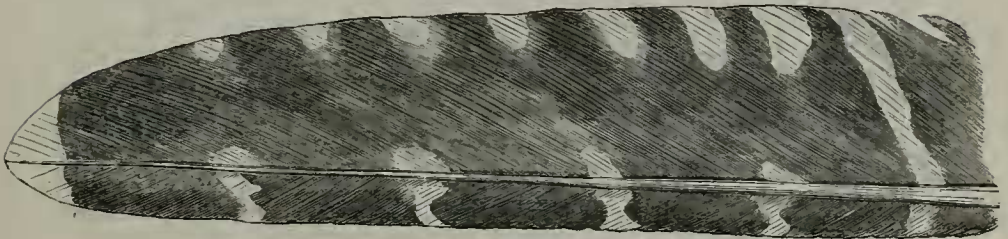
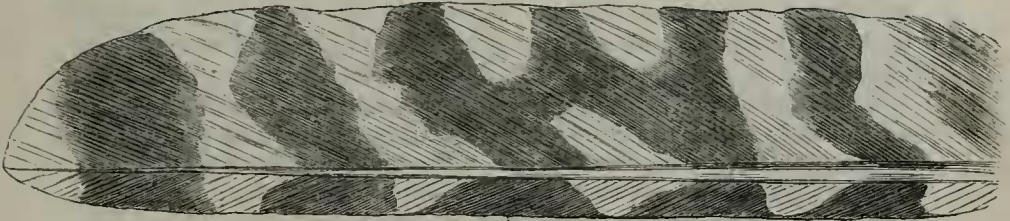


Fig. 3.

Fig. 2. Outer tail-feather of *C. canorus*.Fig. 3. Outer tail-feather of *C. gularis*.

7. CUCULUS CLAMOSUS.

Le Coucou criard, Levaill. Ois. d'Afr. v. pls. 204, 205; Sundev. Crit. om Levaill. p. 47 (1858).

Noisy Cuckoo, Lath. Gen. Syn. Suppl. ii. p. 136 (1801).

Cuculus clamosus, Lath. Ind. Orn. Suppl. p. xxx (1801); Steph. Gen. Zool. ix. pt. 1, p. 108 (1815); Cuv. Règne An. i. p. 425 (1817); Vieill. N. Dict. viii. p. 226 (1817); Less. Traité, p. 147 (1831); Bp. Consp. i. p. 103 (1850); Des Murs in Lefebvre, Voy. Abyss. Zool. p. 137 (1847); Hartl. J. f. O. 1854, p. 416; id. J. f. O. 1861, p. 265; Cab. & Heine, Mus. Hein. Th. iv. p. 43 (1862); Schl. Mus. P. B. *Cuculi*, p. 16 (1864); Anderss. P. Z. S. 1864, p. 3; Layard, B. S. Afr. p. 249 (1867); Bocage, Journ. Lisb. ii. p. 46 (1868); Chapm. Trav. S. Afr. ii. p. 408 (1868); Gray, Hand-l. B. ii. p. 215 (1870); Heugl. Orn. N. O. Afr. i. p. 784 (1871); Anderss. B. Dam. Ld. ed. Gurney, p. 226 (1872).

Cuculus nigricans, Sw. Zool. Illustr. 2nd ser. vol. i. pl. 7 (1829); id. B. W. Afr. ii. p. 180 (1837); Gray, Gen. of B. ii. p. 463 (1847); Hartl. J. f. O. 1854, p. 416; id. Orn. W. Afr. p. 190 (1857); Gurney, Ibis, 1859, p. 246; Cab. & Heine, Mus. Hein. Th. iv. p. 441 (1862).

Surniculus nigricans, Bp. Consp. i. p. 105 (1850).

Cuculus chalybeus, Heugl. J. f. O., 1862, p. 34.

Coccystes nigricans, Cab. & Heine, Mus. Hein. Th. iv. p. 44, note (1862); Gray, Hand-l. B. ii. p. 220 (1870).

Coccystes serratus (pt.); Sharpe, Cat. Afr. B. p. 13 (1871, *err.*); id. Ibis, 1872, p. 68.

Oxylophus serratus, Gurney ed. Anderss. B. Dam. Ld. p. 226 (1872, *ex Sharpe, err.*).

Adult male.—Above glossy greenish black, with a slight shade of dull indigo on the interscapular region; quills brown, the primaries whitish near the base of the inner web, where there are remains of brownish bars, the innermost secondaries greenish black like the back; tail greenish black, tipped with white, all the feathers more or less inclining to brown on the inner webs; under surface of body black, with a slight greenish gloss, not so glossy as the back, some of the under tail-coverts tipped with brownish white; bill black; feet yellow, claws black; iris dark brown. Total length, 12 inches; culmen 0·95; wing 7·2; tail, 6·2; tarsus 0·75.

Young.—Much browner than the adult, the wings paler; the under surface dusky, with remains of rufous bars on the chest, and of fulvous cross markings on the breast, the under tail-coverts tipped with white, and crossed with deep ochre bars; tail tipped with white, with indications of buffy white bars, nearly obsolete.

An apparently very young bird in my collection from Fantee has all the feathers narrowly edged with whitish, the breast white, with broad transverse cross bars of black, the inner web of the primaries barred with white, and the tail also spotted with white; bill horn-brown, yellowish brown on the under mandible.

N. E. AFRICA: only in one locality in the Anseba valley, in August and September, not noticed in May and July (*Heuglin*). W. AFRICA: Denkera (*Ussher*), Elmina, in April, and Amamoo, in May 1872 (*Blissett*). S. W. AFRICA: Biballa (*Anchieta*); Elephant Vley, Damara Land, Oct. 19 and Nov. 8, 1859 (*Andersson*). S. E. AFRICA: Natal (*Ayres*); Eland's Post and the Katberg (*Atmore*).

It seems that *C. nigricans* of Western Africa is inseparable from *C. clamosus* of South Africa. I fancied at first that the latter was a trifle the larger bird; but on examining my series, which is very complete, I find that although one of the Fantee examples measures only 6·5 in the wing, another measures 7·0, which surpasses some of the South-African specimens.

I have explained the cause of error by which this species came to be included by Mr. Gurney (*l. c.*) under the head of *Coccystes serratus*, in a note on the latter bird.

8. CUCULUS SMARAGDINEUS.

Cuculus cupreus, Shaw (nec Bodd.), Mus. Lever. p. 157 (1792);

Vieill. et Oud. Gal. Ois. i. p. 33, pl. 42 (1825); Less. *Traité*, p. 154 (1831); Grill, Zool. Anteckn. p. 42 (1858).

Chalcites cupreus, Rüpp. Neue Wirb. Vög. p. 62 (1835).

Chalcites smaragdineus, Sw. B. W. Afr. ii. p. 191 (1837); Layard, B. S. Afr. p. 251 (1867); Gurney, Ibis, 1859, p. 246.

Chrysococcyx cupreus, Rüpp. Syst. Uebers. p. 96 (1845); Bp. Consp. i. p. 105 (1850); Heugl. Syst. Uebers. p. 48 (1856); Cab. & Heine, Mus. Hein. Th. iv. p. 8 (1862).

Cuculus smaragdineus, Gray, Gen. B. ii. p. 463 (1847).

Cuculus splendidus, Gray, Gen. B. ii. p. 464 (1847, *ex Mus. Lever.*).

Chrysococcyx smaragdineus, Strickl. Contr. Orn. 1851, p. 135; Horsf. & Moore, Cat. B. Mus. E. I. Co. ii. p. 705 (1854); Hartl. J. f. O. 1855, p. 361; Hartl. Orn. W. Afr. p. 191 (1857); Gurney, Ibis, 1859, p. 246; Cab. & Heine, Mus. Hein. Th. iv, p. 10 (1862); Dohrn, P. Z. S. 1866, p. 329; Sharpe, Ibis, 1870, p. 58; Hengl. Orn. N. O. Afr. p. 774 (1870).

Chalcites intermedius, Verr. Rev. et Mag. de Zool. 1851, p. 259.

Chrysococcyx intermedius, Hartl. Orn. W. Afr. p. 191 (1857); Cab. & Heine, Mus. Hein. Th. iv. p. 8 (1862); Bocage, Journ. Lisb. i. p. 143 (1867).

Adult male.—Above brilliant metallic emerald-green, the plumage having somewhat of a scaly and velvety appearance; wings and tail of the same metallic green as the head, this colour likewise extending over the sides of the face and throat as far as the fore neck; rest of under surface bright golden yellow, the under tail-coverts broadly barred with metallic green; the quills and tail glossed underneath with metallic green, the bases of the primaries whitish, the outer tail-feather also spotted on the outer web and tipped with white; under wing-coverts golden yellow, the outer ones green; bill greenish grey, blackish along the line of gape and at tip, malachite-green at angle of mouth; feet and bare orbits lead-colour; iris sometimes brown, sometimes greyish (*Heuglin*).

Female.—Different from the male. Above metallic green, thickly barred with rufous, the quills similarly marked, excepting on the primaries, where the bars are more or less obsolete, leaving the ground-colour brown, the quills brown underneath, very distinctly notched with rufous or rufous white; under surface of body metallic green barred with white, a little more narrowly on the under wing-coverts; tail brown, the middle feathers glossed with metallic green, and washed with rufous, the outer feathers white internally washed with rufous, and spotted near the tips and on the inner web with metallic coppery green.

Hab. N. E. AFRICA: Migratory with the rain; mountains of Abyssinia, Fazogl, and Galla countries, northwards to 16° or 17° N. lat. In Mareb Valley to 4000 feet, and on plateau of Central Abyssinia to 8000 or 9000 feet (*Von Heuglin*). W. AFRICA: river Gambia (*Mus. R. B. S.*); Casamanze (*Verreaux*); Fantee (*Ussher*); Elmina, April 1872 (*Blissett*); Princes' Island (*Dohrn*); St. Thomas (*Weiss*); Cameroons (*Mus. R. B. S.*); Gaboon (*Walker*); Angola

(*Monteiro*); Loanda (*Toulson*). S. AFRICA: Cape Colony (*Layard*); Knysna (*Victorin*); Natal (*Ayres*).

With regard to the bird described as the female I am following the usual information of collectors; but I am by no means certain that the sexes of these Golden Cuckoos are really different from each other, and I believe that the bird usually supposed to be the female is really the young. If the sexes do differ in plumage, it is an abnormality in the family, which would give additional weight to the generic separation of *Chrysococcyx* from *Cuculus*. The tiny nestling of the present species is in my collection from Cameroons, and indicates the colours of the full-grown young bird very successfully. Another one, a little older, has white bars on the head; but this seems either an individual or sexual peculiarity, as it is also visible in another full-grown young example. The first metallic plumage, though complete, seems to be more bronzy in appearance than the fully plumaged bird; and in this stage it was figured by Shaw in the 'Museum Leverianum,' and thence named by Mr. Gray *C. splendidus*. In this first green dress remains of immaturity often appear, especially in the primaries, which are notched with white on the inner web, becoming gradually entirely white as the bird grows older. Thus it often happens that a specimen apparently quite old may still be proved to have not long quitted the immature dress by these white notches on the first or shortest primary.

Gray's title of *splendidus*, though founded on the plate above alluded to without any indication of locality, has always been applied to the South-African bird, the distinctive character being the somewhat shorter tail. As will be seen by the accompanying measurements, the difference is so slight in some examples as to render it an unimportant character; and if the West-African and South-African birds are to be separated, *C. intermedius* from Gaboon must also be reinstated; and this would lead to great confusion where the characters are so slight. The plumage does not vary with locality; therefore it is better to consider that there exists only *one* species, but that the West-African examples are the finest, those from Gaboon are *sometimes* rather smaller, while those from South Africa are the least and have the shortest tails.

			Wing.	Tail.
1.	♂.	West Africa. Mus. Brit.	4·5	4·8
2.	♂.	West Africa. Mus. Brit.	4·7	5·0
3.	♂.	Fantee. Mus. R. B. S.	4·5	4·6
4.	♂.	Fantee. Mus. R. B. S.	4·3	5·2
5.	♂.	Accra (<i>Haynes</i>). Mus. R. B. S.	4·3	4·75
6.	♂.	R. Gambia. Mus. R. B. S.	4·45	4·5
7.	♂.	Gaboon (<i>Walker</i>). Mus. R. B. S.	4·5	4·4
8.	♂.	Gaboon (<i>Walker</i>). Mus. R. B. S.	4·3	3·8
9.	♂.	S. Africa (<i>Layard</i>). Mus. R. B. S.	4·5	3·7
10.	♂.	Natal. Mus. Brit.	4·2	3·5
11.	♂.	Natal. Mus. Brit.	4·2	3·7

9. CUCULUS CUPREUS.

Le Coucou vert-doré et blanc, Buff. Hist. Nat. Ois. vi. p. 385 (1779).

Coucou vert du Cap de Bonne Espérance, Montb. Pl. Enl. vi. pl. 657 (c. 1780).

Gilded Cuckoo, Lath. Gen. Syn. i. pt. 2. p. 527 (1782).

Cuculus cupreus, Bodd. Tabl. Pl. Enl. p. 40 (1783); Gray, Gen. B. ii. p. 463 (1847); Schl. Mus. P. B., *Cuculi*, p. 31 (1864).

Cuculus auratus, Gm. S. N. i. p. 421 (1788, *ex Lath.*); Bonn. et Vieill. Enc. Méth. p. 1337 (1823); Thienem. Abbild. Vogeleiern. t. xv. fig. 4 (1845-56); Grill, Zool. Anteckn. p. 43 (1858).

Le Coucou Didric, Levaill. Ois. d'Afr. v. p. 46, pls. 210, 211 (1806).

Lampromorpha chalcopepla, Vigors, P. Z. S. 1831, p. 92.

Chalcites auratus, Less. Traité, p. 152 (1831); Swains. B. W. Afr. ii. p. 187 (1837); Mont. Ibis, 1862, p. 337; Layard, B. S. Afr. p. 250 (1867); Gurney, Ibis, 1868, p. 163.

Cuculus chalcopeplus, Gray, Gen. B. ii. p. 463 (1847).

Chrysococcyx auratus, Bp. Consp. i. p. 105 (1850); Hartl. Orn. W. Afr. p. 190 (1857); Gurney, Ibis, 1859, p. 247; Mont. P. Z. S. 1865, p. 94; Antin. Cat. descr. Ucc. p. 84 (1865); Hartl. P. Z. S. 1867, p. 826; Bocage, Journ. Lisb. i. p. 143 (1867); Gurney, Ibis, 1868, p. 467; Sharpe, Ibis, 1870, p. 58.

Chrysococcyx cupreus, Heugl. Peterm. Mitth. 1861, p. 26; Finsch & Hartl. Vög. Ostaf. p. 522 (1870); Blanf. Geol. & Zool. Abyss. p. 313 (1870); Sharpe, P. Z. S. 1870, p. 145; id. Cat. Afr. B. p. 13 (1871); id. P. Z. S. 1871, p. 605; Heugl. Orn. N. O. Afr. p. 776 (1871); Shelley, B. Egypt, p. 163 (1872); Gurney ed. Anderss. B. Dam. Ld. p. 228 (1872).

Lamprococcyx cupreus, Cab. & Hein. Mus. Hein. Th. iv. p. 11 (1862).

Lamprococcyx chrysochlorus, *id.* ut *suprà*.

Lamprococcyx chrysites, Heine, J. f. O. 1863, p. 350.

Chalcites cupreus, Kirk, Ibis, 1864, p. 327.

Young.—Head uniform cinnamon-rufous, the sides of the neck scantily marked with metallic green, with a broad streak of white under the eye; upper surface of body dull metallic green, with a slight coppery appearance on the interscapular region, with broad cross bars of pale cinnamon; quills deep cinnamon, barred with dull metallic green, the subterminal spot very large; tail also deep cinnamon with metallic green cross bars, the outermost feathers with four rounded spots of white on the outer web and two on the inner, one being terminal, the next feather with indications of white spots on the two apical bars of the inner web; under surface of body dull white, the throat washed with rufous and spotted with dull metallic green, these spots becoming fewer and smaller on the breast, but taking the form of bars on the sides of body and under tail-coverts; bill orange-brown.

The description of the young is taken from a specimen given to me by Mr. Monteiro, who obtained it in Angola. Governor Ussher, when in Fantee, likewise obtained a series of young birds, from which it would appear that the next stage is gained partly by a moult and partly by a change of feather, in this wise:—The metallic green of

the back spreads and occupies the rufous cross bars, while it is also apparent that the green bars on the tail, always irregular in shape, merge and occupy the whole feather. Below, the metallic shade of the spots becoming dimmed, the latter break up into frecklings and streaks, and finally disappear; but the bars on the sides become intensified, and more boldly developed. The greater coverts, which showed very slight indications of this change in the younger stage, now become conspicuously marked with white. The dark green portion of the outer tail-feather becomes much more pronounced than in the former stage. The change in colour on the head from cinnamon to purplish brown seems to take place by a moult, and not by a change of plumage as in the rest of the upper surface. Whether the full metallic dress is attained without any actual moult I have no evidence to show; but it seems to me by no means improbable.

Adult.—Above metallic green, changing to golden green, sometimes with a coppery gloss, according to the light; a streak down the fore part of the head, and a distinct eyebrow, white; ear-coverts coppery green; cheeks, sides of neck, and underparts white, the sides of the body as well as the under wing- and tail-coverts barred, the sides of vent streaked with dull metallic green; wings metallic green above, like the back, varying with the light, the inner greater wing-coverts and the quills externally spotted with white, the primaries more minutely; under surface of quills ashy brown, with oval spots or bars of white on the inner web; lateral upper tail-coverts externally white; tail metallic green, all except the two middle feathers tipped with white, the outermost spotted with white on both webs, vanishing towards the centre feathers; “bill dusky above, horny beneath; legs dusky; iris and orbit scarlet” (*Blanford*).

Total length 8·5 inches; culmen 0·7; wing 4·25; tail 3·4; tarsus 0·65.

Hab. N.E. AFRICA: Commonest of the Emerald Cuckoos, rarer on Upper White Nile and Blue Nile, and only a few examples obtained from Gondokoro and Fazogl. Appears early in rainy season, and leaves in September and October (*von Heuglin*). W. AFRICA: river Gambia (*Mus. R. B. S.*); Goree (*Mus. Lisb.*); Fantee (*Ussher*); river Volta (*Ussher*); Cameroons (*Crossley*); Gaboon (*Verreaux*); Kattenbella (*Sala*). S. W. AFRICA: Benguela (*Monteiro*); Damara Land (*Andersson*). S. AFRICA: The Karroo (*Vic-torin*); Natal (*Ayres*); Traansvaal (*Ayres*). E. AFRICA: Zanzibar (*Kirk*).

No difference has been shown to exist between the sexes of this little Cuckoo; and it is quite probable therefore that the birds said to be the females of *C. klaasi* and *C. smaragdineus* are after all only the young birds.

10. CUCULUS KLAASI.

Le Coucou de Klaas, Levaill. Ois. d'Afr. v. p. 53, pl. 212 (1806); Sundev. Crit. om Levaill. p. 47 (1858).

Cuculus klaasi, Steph. Gen. Zool. ix. pt. 1, p. 129 (1815); Gray, Hand-l. B. ii. p. 218 (1870).

Cuculus klaasii, Vieill. N. Diet. d'Hist. Nat. viii. p. 230 (1817); Bonn. et Vieill. Enc. Méth. iii. p. 1333 (1823); Licht. Verz. Doubl. p. 9 (1823); Grill, Zool. Anteckn. p. 43 (1868).

Chalcites klasii, Less. Traité, p. 153 (1831).

Chalcites klassii, Sw. B. W. Afr. ii. p. 189, pl. 21 (1837).

Chrysococcyx clasi, Rüpp. Syst. Uebers. p. 96 (1845); Heugl. Syst. Uebers. p. 48 (1856); id. Peterm. Mitth. 1861, p. 26.

Cuculus klasii, Gray, Gen. B. ii. p. 463 (1847); Schl. Mus. P. B. *Cuculi*, p. 30 (1864).

Chrysococcyx klaasi, Bp. Consp. p. 105 (1850); J. & E. Verr. Rev. et Mag. de Zool. 1855, p. 270; Hartl. J. f. O. 1861, p. 265; Finsch, J. f. O. 1867, p. 248; Bianc. Spec. Zool. Mosamb. p. 327 (1867); Bocage, Journ. Lisb. ii. p. 46 (1868); Finsch & Hartl. Vög. Ostaf. p. 520 (1870); Blanf. Geol. & Zool. Abyss. p. 314 (1870); Sharpe, Ibis, 1870, p. 58; Gurney, ed. Anderss. B. Dam. Ld. p. 229 (1872).

Chrysococcyx klaasii, Hartl. Orn. W. Afr. p. 190 (1857); Gurney, Ibis, 1859, p. 247; Heugl. J. f. O. 1864, p. 265; Sharpe, Cat. Afr. B. p. 13 (1871); Heugl. Orn. N. O. Afr. p. 778 (1871).

Lamprococcyx klaasi, Cab. & Heine, Mus. Hein. Th. iv. p. 12 (1862); Heine, J. f. O. 1863, p. 351.

Lamprococcyx resplendens, Heine, J. f. O. 1863, p. 350.

Chalcites klaasii, Layard, B. S. Afr. p. 250 (1867).

Adult male.—Above metallic green, changing with the light to fiery bronze and golden green; the sides of the face and of the neck as well as the wings coloured like the back and subject to the same reflexions; under surface of quills greyish brown, very numerous and distinctly notched on the inner web with white; four middle tail-feathers golden green, with a slight coppery reflexion, especially towards the tips, the other feathers white, with a spot of golden green near the tip of the outer web, and three or four of the same colour on the inner web; under surface of body pure white, with a few broad longitudinal streaks of golden green on the upper thigh-feathers, the sides of the upper breast also bright golden-green, like the back; "bill dusky; legs pale; feet brownish olive; iris brown; orbit very pale green" (*Blanford*). Total length 7·0 inches, culmen 0·7, wing 4·1, tail 3·2, tarsus 0·55.

Female.—Above brown, the head uniform; interscapular region barred with dull rufous; rest of the upper surface barred with dull rufous and metallic green, broader and more distinct on the wing-coverts, narrower and less plain on the lower back, rump, and upper tail-coverts; quills brown, the secondaries coloured like the back, the primaries notched externally with pale rufous, under surface of quills ashy brown, deeply notched with pale rufous on the inner web; tail brown, with a subterminal spot of coppery green on the centre feathers, the next one glossed with copper-colour, and notched externally with pale rufous, the three outermost white, with a conspicuous spot of coppery green near the tip, and more or less remains of pale rufous notches and brown bars on the inner webs; ear-coverts

brown like the head; rest of under surface dull white, with narrow brown cross lines, the sides of the upper breast uniform brown; thighs barred with pale rufous and metallic green, like the back; under wing-coverts pale rufous, with brown cross lines.

Hab. N. E. AFRICA: much rarer than the other Emerald Cuckoos: Central Abyssinia in May, N. Abyssinia in August; Upper Nile in November (*Von Heuglin*); Lebka valley (*Blanford*). W. AFRICA: river Gambia (*Mus. R. B. S.*); Denkerá, Fantee (*Blissett*); Cameroons (*Mus. R. B. S.*). S. W. AFRICA: Biballa (*Anchieta*). S. AFRICA: Natal (*Ayres*); Eland's Post (*Atmore*); Knysna and the Karroo (*Victorin*).

I presume that it is beyond doubt established that the bird which always passes with collectors as the female of this bird is really the adult of that sex; but there is considerable difference among them, and it would seem difficult to make out the adult stage of the hen bird. A specimen sent me by my friend Mr. Layard as the female of *C. clausi* differs from the one above described by me in having a dull rufous shade extending over the lower parts, with much more distinct cross bars; above a purplish gloss overspreads the bird from the head to the tail; and the green and rufous barring is confined to the scapulars and wings.

I cannot identify more than one species. South-African specimens are rather the larger, and have the wing 3·8–4·05 inches against 3·5–3·8 inches in West-African examples. The narrow bars on the flanks are the remains of immaturity, as also are the white notches on the inner web of the first primaries, which get fewer in number as the bird advances in age.

Genus 2. COCCYSTES.

<i>Coccytes</i> , Gloger, Hand. u. Hilfsb. Naturg. p. 203	Type.
(1832)	<i>C. glandarius</i> .
<i>Oxylophus</i> , Swains. Classif. of B. ii. p. 322	
(1837)	<i>C. cafer</i> .

Fig. 4.



Head of *Coccytes glandarius*.

Key to the species.

- a. Abdomen whitish.
 a'. Above brown: an ashy-grey crest: wings spotted with white 1. *glandarius*.
 b'. Above blackish: crest uniform with back: wings unspotted.
 a". Throat white, conspicuously streaked with black 2. *cafer*.
 b". Throat white, like the breast 3. *jacobinus*.
 b. Abdomen black 4. *serratus*.

1. *COCCYSTES GLANDARIUS*.

Cuculus glandarius, Linn. S. N. i. p. 169 (1766).

Bee Cuckoo, Bruce, Trav. Abyss. v. App. p. 179 (1790).

Coccyzus glandarius, Rüpp. N. W. Vög. p. 62 (1835); id. Syst. Uebers. p. 96 (1845).

Cuculus phaiopterus, Rüpp. in Mus. Lugd. (teste Schlegel: = juv.).

Oxylophus glandarius, Strickl. P. Z. S. 1850, p. 219; Hartl. Orn. W. Afr. p. 188 (1857); id. J. f. O. 1861, p. 265; Heugl. Peterm. Mitth. 1861, p. 25; Layard, B. S. Afr. p. 251 (1867).

Coccytes glandarius, Heugl. Syst. Uebers. p. 48 (1856); id. J. f. O. 1862, p. 34; Cab. & Heine, Mus. Hein. Th. iv. p. 44 (1862); Finsch & Hartl. Vög. Ostaf. p. 518 (1870); Gray, Hand-l. B. ii. p. 220 (1870); Sharpe, Ibis, 1870, p. 485; id. Cat. Afr. B. p. 12 (1871); Heugl. Orn. N. O. Afr. p. 786 (1871); Shelley, B. Egypt, p. 162 (1872); Gurney, ed. Anderss. B. Dam. Ld. p. 225 (1872).

Adult male. Above brown, somewhat inclining to olive-brown, the scapulars slightly, the wing-coverts and inner secondaries more conspicuously tipped with whitish; quills darker brown above, the inner primaries narrowly edged with whitish at the tips, the inner face of the quills whitish; lower back, rump, and upper tail-coverts brown like the back, the outermost of the latter white on the outer web, the inner ones tipped with white; tail brown, broadly tipped with white; crown of the head and crest bluish grey, with narrow blackish shaft-lines; sides of the face and hind neck rather darker brown, the ear-coverts washed with grey; throat and chest yellowish white, the former somewhat tinged with greyish, with indistinct hair-like blackish shaft-lines; rest of under surface purer white, the flanks shaded with greyish; under wing-coverts yellowish, the outer ones and the axillaries white, the latter somewhat shaded with ashy; bill brown, yellowish at base of lower mandible, feet bluish, shaded with brown; iris pale brown. Total length 15 inches, culmen 1.1, wing 8.15, tail 9, tarsus 1.3.

Adult female. Generally similar to the male, but having a faint rufous tinge on the inner webs of the primaries.

Young. Very different from the adult, and looking like another species. Above dark brown, the head and crest black; the wing-coverts scantily spotted with white; primaries rufous, the tips dusky brown, tipped with white, the first two primaries also brown on the outer web, the inner secondaries uniform with the back, and tipped with white; the external upper tail-coverts white on the

outer web; tail as in adult, but not so broadly tipped; throat and fore neck as well as under wing-coverts rich ochre; rest of under surface white, washed with ochre, the outer face of the thighs dusky brown.

Whether the female *always* differs, as I have described, in having a tinge of rufous on the primaries, I cannot say for certain, but such has been my experience in a large series of carefully sexed specimens. As, however, the amount of rufous varies, being sometimes more, sometimes less, it may not improbably be the remains of the rufous wing of the young bird.

Hab. N.É. AFRICA: Egypt (*Shelley*); common everywhere, found along the whole Nile valley to the Gazelle River and Djur, also in Bogos, Quola of Abyssinia, and on the Danakil and Somali coasts, as well as in most parts of Arabia—apparently resident (*Von Heuglin*); Kordofan (*Petherick*). W. AFRICA: river Gambia (*Mus. R. B. S.*); Kasamanze and Bissao (*Verreaux*); Cape Coast, Dec. 1869 (*Hinde*). S.W. AFRICA: Ovampo (*Andersson*); Damara Land and Okavango river (*Andersson*); Windvogelberg (*Bulger*); Kaffraria (*Layard*); Port Elizabeth (*Mus. R. B. S.*).

2. COCCYSTES CAFER.

Cuculus cafer, Licht. Cat. Rer. Nat. Hamb. p. 14 (1793).

Variété du Coucou Edolio, Levaill. Ois. d'Afr. v. p. 44, pl. 209 (1806); Sunde. Crit. om Levaill. p. 47 (1858).

Cuculus afer, Leach, Zool. Misc. p. 72, pl. 31 (1814); Steph. Gen. Zool. ix. p. 115, pl. 24 (1815).

Coccyzus levaillantii, Sw. Zool. Illustr. 2nd ser. pl. 13 (1829).

Cuculus levaillantii, Less. Traité, p. 148 (1831).

Oxylophus vaillantii, Sw. B. of W. Afr. ii. p. 182 (1837).

Oxylophus ater, Rüpp. Syst. Uebers. p. 96 (1845); Bp. Consp. i. p. 102 (1850); Hartl. Orn. W. Afr. p. 188 (1857).

Oxylophus afer, Gray, Gen. B. ii. p. 464 (1847); Heugl. Syst. Uebers. p. 48 (1856); Layard, B. S. Afr. p. 253 (1867); Heugl. Orn. N. O. Afr. p. 790 (1870); Blanf. Geol. & Zool. Abyss. p. 312 (1870); Finsch, Tr. Z. S. vii. p. 285 (1870).

Coccytes afer, Cab. & Heine, Mus. Hein. Th. iv. p. 48 (1862); Schl. Mus. P.-B., *Cuculi*, p. 44 (1864).

Coccytes caffer, Sharpe, Ibis, 1870, p. 58; Gray, Hand-l. B. ii. p. 220 (1870); Sharpe, Cat. Afr. B. p. 13 (1871).

Oxylophus caffer, Gurney, ed. Anderss. B. Dam. Ld. p. 225 (1872).

Adult male. Above shining greenish black, the head deeper black and ornamented with a long crest of lanceolate feathers; lores and ear-coverts dull black; quills brown, the inner webs white at the base, the primaries also externally white at the base, causing a large alar speculum, the inner secondaries greenish black like the back; tail greenish black like the rest of upper surface, broadly tipped with white, the inner webs showing somewhat of a purple tinge; under surface of body buffy white, the feathers of the throat, breast, and under tail-coverts black in the centre, giving a thickly striped ap-

pearance, the flanks also somewhat mottled, with black centres to the feathers; under wing-coverts white, streaked with black, the lower ones entirely black; bill black; feet brown, tinged with lead-colour; iris dark olive. Total length 15·5 inches, culmen 1·1, wing 7·4, tail 10·2, tarsus 1·05.

Young. Above brown, the lower back and wing-coverts margined with pale rust-colour; crest brown, with a slight greenish tinge on some of the feathers; quills brown, with a purplish gloss on the inner secondaries; tail purplish brown, with a greenish gloss near the base, the two exterior feathers tipped with white on the outer web; under surface of body dull white, tinged with ochre on the abdomen and under tail-coverts, the throat and chest indistinctly marked with dull brown in the centre of some of the feathers; under wing-coverts buffy white, the lower ones blackish, the quills white at the base of the inner web only, showing no external alar speculum; bill horn-brown, the under mandible reddish.

The southern bird is the largest, measuring 7·4 in the wing. The northern ones measure 6·5–7·1, but there is no difference in plumage.

Hab. N.E. AFRICA: along the Nile northwards to Dongola, in Senaar and all over the White-Nile district (*Von Heuglin*); Upper Lebka and Anseba valleys (*Blanford*); Waliko and Gabenaweldt-gonfallon, August 1868 (*Jesse*). W. AFRICA: river Gambia (*Mus. R. B. S.*); Sierra Leone (*Fraser*); Fantee (*Ussher*); Denkera, Dec. 1871, and Jan. 1872 (*Blissett*). S.W. AFRICA: Damara Land, Elephant Vley, Nov. 1869, and Otjimbingue, March 1863 (*Anderson*). S. AFRICA: Swellendam (*Cairncross*); Limpopo river (*Wahlberg*).

My friend Mr. H. F. Blissett sent me the following note on a specimen which was obtained for him from the forest country of Denkera in the interior of Fantee:—"This I believe to be a very rare bird indeed. From what I can gather from Aubinn, he has only seen one before, which Governor Nagtlas sent to Holland. He calls it a Nightingale; and my own collector confirms the fact of its singing when the rain is coming on. It was shot in Denkera in December 1871; and I have ordered him to get some more specimens for you." Whether any credence can be given to the fact of this bird "singing" will be found some day by some European collector; for the native accounts are unfortunately very untrustworthy, and it is quite certain that its rarity was exaggerated by Aubinn to Mr. Blissett; for he obtained one or two examples for Governor Ussher, and sent at least one specimen to Mr. Higgins. Mr. Blissett's bird being in a peculiar state of change of plumage, Aubinn may have referred to it in the sense of only having seen one *exactly* similar bird; for I know by experience that birds of all kinds which differ in sex or in young plumage, are always considered by the natives to be distinct species.

3. COCCYSTES JACOBINUS.

Coucou huppe de la côte de Coromandel, Montb. Pl. Enl. vi. pl. 872 (1783).

Cuculus jacobinus, Bodd. Tabl. Pl. Enl. p. 53 (1783, ex Montb.).

Cuculus melanoleucus, Gm. S. N. i. p. 416 (1788, ex Montb.).

Le Coucou Edolio (femelle), Levaill. Ois. d'Afr. v. pl. 208 (1806); Sundev. Crit. om Levaill. p. (1858).

Cuculus serratus ♀, Steph. Gen. Zool. ix. p. 114, pl. 23 (1815).

Coccytes melanoleucus, Jerd. B. Ind. i. p. 339 (1862).

Coccytes pica, Cab. & Heine, Mus. Hein. iv. p. 46 (1862); Gray, Hand-l. B. ii. p. 220 (1870).

Coccytes jacobinus, Cab. & Heine, Mus. Hein. Th. iv. p. 45 (1862); Schl. Mus. P.-B., *Cuculi*, p. 44 (1864); Gray, Hand-l. B. ii. p. 220 (1870); Sharpe, Cat. Afr. B. p. 13 (1871).

Coccytes hypopinarius, Cab. & Heine, Mus. Hein. Th. iv. p. 47 (1862); Gray, Hand-l. B. ii. p. 220 (1870).

Oxylophus melanoleucus, Layard, B. S. Afr. p. 252 (1867); Ayres, Ibis, 1871, p. 261.

Oxylophus serratus, Bocage, Journ. Acad. Lisb. ii. p. 46 (1868).

Oxylophus jacobinus, Finsch, Tr. Z. S. vii. p. 286 (1870); Blanf. Geol. & Zool. Abyss. p. 313 (1870); Heugl. Orn. N. O. Afr. p. 788 (1871); Gurney, ed. Anderss. B. Dam. Ld. p. 225 (1872).

Adult. Head, which is ornamented with a long crest, and entire upper surface glossy greenish black, the tail tipped with white; primaries brown, white at the base both internally and externally, forming a large white alar spot; sides of face black; under surface entirely dull white, with a yellowish tinge on the throat and breast; under wing-coverts yellowish white, the lower ones greyish; flanks shaded with dusky grey; bill and feet black; iris yellow. Total length 13.6 inches, culmen 1, wing 6.4, tail 8, tarsus 1.15.

Young. Brown, the quills paler; tail brown, tipped with white, the centre feathers glossed with greenish; a white alar spot as in adults; under surface of body entirely yellowish white, the lower under wing-coverts brown; bill horn-brown.

I cannot find any real difference between Indian and African specimens of this Cuckoo; and the measurements show that there is only one species.

Hab. N.E. AFRICA: probable migrant—Bogos in August, Senaar in September, Chartum and Berber in November (*Von Heuglin*); Anseba valley (*Blanford*); Atrub on the Blue Nile (*Antinori*); Ambukol in Nubia (*Ehrenberg*). E. AFRICA: Mombas (*Wakefield*). S. AFRICA: Tette (*Livingstone*); Natal, Transvaal (*Ayres*); Eland's Post (*Atmore*); Lake N'gami (*Andersson*). S.W. AFRICA: Damara Land (*Andersson*); Biballa (*Anchieta*).

The adult specimen described was a Damara skin; and it is from this and the adjoining region that the largest specimens come. The difference in general bulk and in length of tail is very great, even in specimens from the same locality.

	Long. tot.	Alæ.	Caud.
1. ♀. Natal. Ayres	11·5	5·90	7·1
2. Transvaal. Ayres	12·3	6·15	7·4
3. Tette. Livingstone.....	11·7	5·65	6·9
4. Damara Land. Andersson	12·0	6·35	7·8
5. " " " "	13·6	6·4	8·0
6. Biballa. Anchieta	14·0	6·0	7·6
7. " " " "	14·0	6·6	7·8
8. ♂. Elands' Post. " Atmore	11·8	6·05	7·3
9. ♂. Waliko. Blanford	12·7	5·75	7·3
10. Simla. Thompson	10·8	5·75	6·8
11. Lahore. Marshall	12·2	6·2	7·3
12. Nepal. Hodgson	12·4	6·0	7·4
13. " " " "	12·6	5·8	7·3
14. " " " "	12·9	6·0	7·2
15. " " " "	11·4	5·85	7·0
16. Pegu. Blanford	12·4	5·9	7·2

Many ornithologists have followed Levaillant in considering this and *Coccytes serratus* to be sexes of one and the same bird. Independently of Mr. Layard's testimony that they are not equally common in the parts of South Africa they inhabit, the best answer that can be given to this supposition is that in Abyssinia and in India the Black-crested Cuckoo never occurs *at all*.

4. COCCYSTUS SERRATUS.

Crested Black Cuckoo, Lath. Gen. Syn. i. pt. 2, p. 519 (1782).

Cuculus serratus, Sparrm. Mus. Carls. fasc. i. pl. 3 (1786); Sundev. Crit. Sparrm. p. 4 (1858).

Cuculus ater, Gm. S. N. i. p. 415 (1788, ex Lath.).

Le Coucou Edolio (male), Levaill. Ois. d'Afr. v. p. 39, pl. 207 (1806); Sundev. Crit. om Levaill. p. 47 (1858).

Cuculus edolius ♂, Cuv. Règne Anim. i. p. 425 (1817); Less. Traité, p. 148 (1831).

Oxylophus edolius, Sw. Classif. B. ii. p. 322 (1837); Layard, B. S. Afr. p. 252 (1867).

Oxylophus serratus, Gray, Gen. B. ii. p. 464 (1847); Blyth, Cat. B. Mus. As. Soc. B. p. 74 (1849); Bp. Consp. i. p. 102 (1850); Gurney, Ibis, 1859, p. 246; Ayres, Ibis, 1869, p. 297.

Coccytes serratus, Cab. & Hein. Mus. Hein. Th. iv. p. 47 (1862); Schl. Mus. P.-B., *Cuculi*, p. 45 (1864); Gray, Hand-l. B. ii. p. 220 (1870); Sharpe, Cat. Afr. B. p. 13 (1871).

Adult male. Above glossy greenish black, with a long crest of the same colour; under surface of body also greenish black, but a little duller than the back; quills brownish, the secondaries glossed with green like the back, the primaries white at the base of both webs, forming externally a very large alar speculum; tail greenish above, inclining to purplish brown underneath; bill black; tarsi slate-coloured; iris nearly black. Total length 12·5 inches, culmen 1·0, wing 6·15, tail 7·6, tarsus 1·05.

Hab. "Abundant in the Karroo, extends into the Cape peninsula and has been received from all parts of the colony to the eastward" (*Layard*); Graham's Town (*T. C. Atmore*); Kaffraria (*Mus. Hein.*); Natal and Transvaal (*T. Ayres*).

The birds in my collection supposed to be of this species from Damara Land are really *Cuculus clamosus*, and were labelled wrongly by a friend who was assisting me in arranging my collection at the time. During my absence the birds got mixed; and not being an ornithologist, he labelled all the black Cuckoos by one name. Hence arose the mistake, for which I am responsible, of giving *C. serratus* as a Damara species in Andersson's book.

Subfam. 2. PHÆNICOPHAINÆ.

Having been forced to study the other genera of this subfamily in order to determine the exact position of the two African species, I give here the notes I made with a view to help any future student of the group. The study of the *Phœnicophainæ* is attended with considerable difficulty, owing rather to the variability of the structural characters in a more or less important degree, than to the specific similarity of the birds included in the subfamily.

As far as can be determined by external characters, it is impossible to find grounds for the separation of so many subfamilies as Mr. Gray admits in his 'Handlist;' nor can I quite acquiesce in the arrangement of the genera proposed by him. *Carpococcyx* exhibits a direct tendency to *Neomorphus*, from which it can scarcely be distinguished except by its smaller development of crest and bare face. Anatomy may one day bring to light some sounder grounds of division; but at present it seems hopeless to attempt to place these American Cuckoos far from the Malayan *Phœnicophainæ*. The latter subfamily appears to me to contain the following Old-World genera, the numbers being taken from the 'Handlist.'

- 2195. *Phœnicophaes*.
- 2196. *Rhamphococcyx*.
- 2197. *Dasylophus*.
- 2198. *Lepidogrammus* (*Leptogrammus*, err.).
- 2199. *Carpococcyx*.
- 2200. *Zanlostomus*.
- 2201. *Ceuthmochares*.
- 2202. *Taccocua*.
- 2203. *Rhopodytes* (*Rhododytes*, err.).
- 2204. *Rhinortha*.
- 2205. *Coua* (= *Sericosomus*).

So that it will be seen that I adopt nearly all Mr. Gray's generic and subgeneric divisions. Indeed some of the latter are in my mind more thoroughly distinguishable than the genera he recognizes. I propose the following arrangement:—

- a. Feathers of the breast with distinctly stiffened and glossy shafts a. *Taccocua*.
- b. Breast-feathers ordinary.
- a'. Head and throat ornamented with metallic horny tips to the feathers β. *Lepidogrammus*.
- b'. Head and throat ordinary, with no metallic tips.
- a''. Line of gape longer than the tarsus.
- a'''. Nostrils hidden by small feathers..... γ. *Dasylophus*.
- b'''. Nostrils not hidden.
- a'''''. Bill almost straight, as also is the gonys..... δ. *Rhinortha*.
- b'''''. Bill conspicuously curved, the line of gape following the curve of the bill.
- aa. Nostrils rounded, or slightly oval in shape. ε. *Rhopodytes*.
- bb. Nostrils more or less linear.
- aa'. Nostrils placed basally in a large groove. ζ. *Rhinococcyx*.
- bb'. Nostrils simple, not placed in a groove.
- aa''. Nostrils straight.
- aa'''. Bill higher than broad, measured at gape.
- aa'''''. Lores and sides of face bare, papillose η. *Phenicophacs*.
- bb'''. Lores feathered; sides of face bare and smooth θ. *Rhamphococcyx*.
- bb'''. Bill broader than high..... ι. *Zanclostomus*.
- bb''. Nostrils ascending κ. *Poliococcyx*.
- cc''. Nostrils descending λ. *Ccuthmochares*.
- b''. Line of gape shorter than tarsus.
- a'. Nail of the hind toe curved, shorter than the hind toe itself.
- a''. Height of bill less than its breadth.
- a'''. Distance from the fore part of eye to the fore part of nostril greater than the distance from the latter part to tip of beak μ. *Carpococcyx*.
- b'''. Distance as above measured less than from the nostril to tip of beak ν. *Sericosomus*.
- b''. Height of bill equal to its breadth..... ο. *Cochlothetaustes*.
- b'. Nail of hind toe straight, like that of a Lark, always equal to, and generally surpassing, the hind toe itself..... π. *Centropus*.

Genus 1. TACCOCUA. (Fig. 5, p. 602.) Type.

- Taccocua*, Less. Traité d'Orn. p. 144 (1831) .. *T. leschenaulti*.
- Acentetus*, Cab. & Heine, Mus. Hein. Th. iv. p. 102 (1862)..... *T. infuscata*.

Evinces great affinity to *Centropus*, not only in coloration, but especially in the stiffened shafts to the breast-feathers.

Genus 2. LEPIDOGRAMMUS. (Fig. 6, p. 602.)

- Lepidogrammus*, Reich. Syst. Av. Nat. pl. xlvi., Type.
fig. 4 (1849) *L. cumingi*.

Distinguished by its somewhat Turacine aspect, the contour of the crest being rounded, and the feathers curving over the nasal openings, which they hide from sight. Above all remarkable for the horny appendages to the feathers of the head.

Fig. 5.

Head of *Tuccocua leschenaulti*.

Fig. 6.

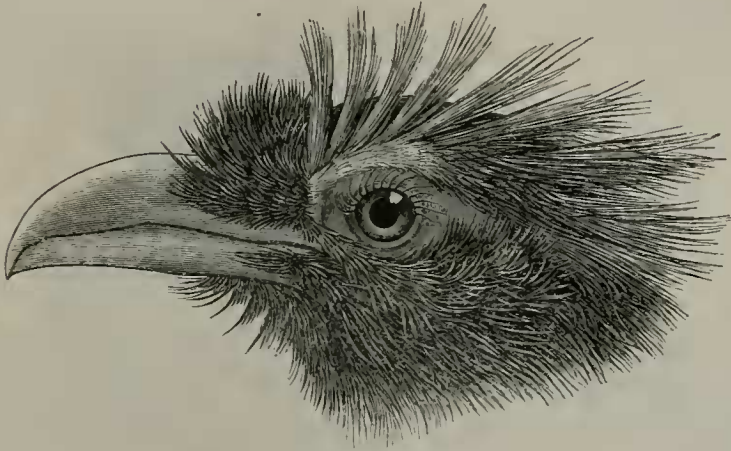
Head of *Lepidogrammus cumingi*.

Genus 3. DASYLOPHUS.

Type.

Dasylophus, Swains. Classif. B. ii. p. 324 (1837) *D. superciliosus*.

Fig. 7.

Head of *Dasylophus superciliosus*.

Resembles *Lepidogrammus* in having the nostrils hidden by bristles, but is otherwise very like the more typical *Phœnicophainæ*. Distinguished from its allies by the crested superciliary feathers, which seem to be an extreme development of the hairy bristles noticed on some of the other genera.

Genus 4. RHINORTHA.

Type.

Rhinortha, Vigors, Mem. Raffl. p. 671 (1830) .. *R. chlorophæa*.*Bubutus*, Less. Traité d'Orn. p. 143 (1831) ... *R. chlorophæa*.*Anadænus*, Swains. Classif. B. ii. p. 324 (1837) .. *R. chlorophæa*.*Idiococcyx*, Boie, 1838 (ubi?).

Fig. 8.

Head of *Rhinortha chlorophæa*.

Remarkable for its straightened bill, as seen in the woodcut.

The sexes differ conspicuously—an unusual character in this sub-family.

Genus 5. RHOPODYTES.

Type.

Rhopodytes, Cab. & Heine, Mus. Hein. Th. iv. p. 61 (1862). *R. diardi*.

Fig. 9.



Head of *Rhopodytes diardi*.

The species which I would place in this genus are the following:—typical—*R. diardi*, *R. tristis*, *R. viridirostris*, *R. borneensis*; less typical—*R. erythrognathus*, *R. æneicaudus*. All these have stiff bristles on the forehead, and the bare face is highly rugose: in *R. diardi* the bristles on the head and neck are wonderfully developed. All of them have rounded nostrils; but the two last-mentioned birds are scarcely typical, as the bare face extends to the nostril, and is not separated, as in *R. diardi*, by a narrow loreal line of feathers. It is possible that a comparison of the birds in spirits would discover other differences.

Genus 6. RHINOCOCCYX, gen. nov.

Although *Phœnicophaes curvirostris*, which I make the type of this new genus, bears the greatest resemblance to *Rhopodytes erythrognathus*

Fig 10.



Head of *Phœnicophaes curvirostris*.

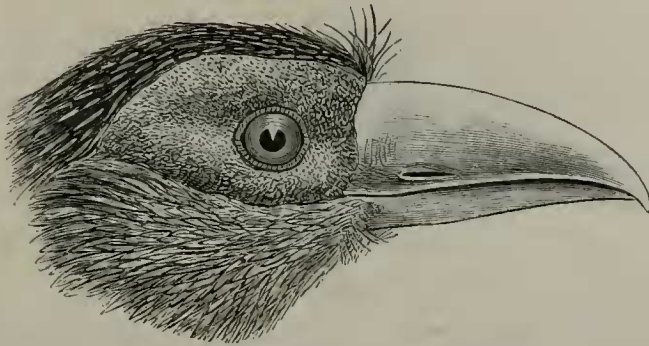
thus, so much that, as Lord Walden has pointed out, they are scarcely to be separated specifically, I must point to the well-marked *structural* difference of the nostril as a good generic character. The out-

ward resemblance between these two birds is probably due to some other cause.

Genus 7. PHÆNICOPHAES.

<i>Phœnicophaeus</i> , Vieill. N. Dict. xviii. p. 461	Type.
(1817)	<i>P. pyrrhocephalus</i> .
<i>Melias</i> , Gloger, Handb. Naturg. p. 202 (1842)	?
<i>Alectorops</i> , J. & E. Verr. Rev. et Mag. de Zool. 1855, p. 355.	<i>P. pyrrhocephalus</i> .

Fig. 11.



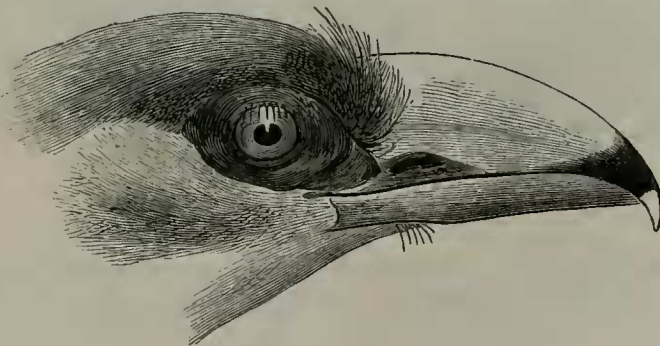
Head of *Phœnicophaeus pyrrhocephalus*.

Remarkable for the gallinaceous appearance of the face, whence M. Verreaux derived his well-chosen name. The nostril is exposed as in no other genus of the *Phœnicophæinæ*.

Genus 8. RHAMPHOCOCCYX.

<i>Rhamphococcyx</i> , Cab. & Heine, Mus. Hein. Th. iv. p. 65 (1862)	Type.
	<i>R. calorhynchus</i> .

Fig. 12.



Head of *Phœnicophaeus calorhynchus*.

Although bearing some resemblance to *Rhinococcyx* and the aberrant members of *Rhopodytes*, this genus differs from all in the

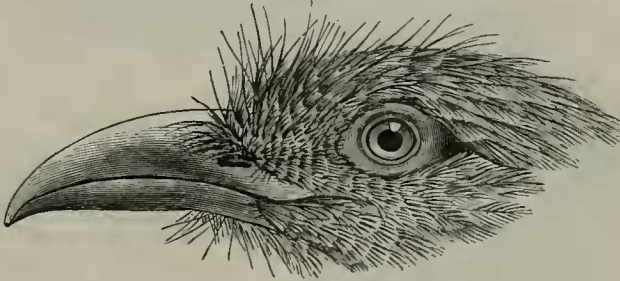
smoothness of the bare face, while the feathers descend over the lores, thereby overhanging the nostril. To true *Phœnicophaes* it is allied by the shape of the nostrils, but differs in its smooth face and feathered lores, while it even shows slight indications of a nasal groove, which is an approach to *Rhinococcyx*.

Genus 9. ZANCLOSTOMUS.

Type.

Zanclostomus, Swains. Classif. B. ii. p. 323 (1837) *Z. javanicus*,

Fig. 13.

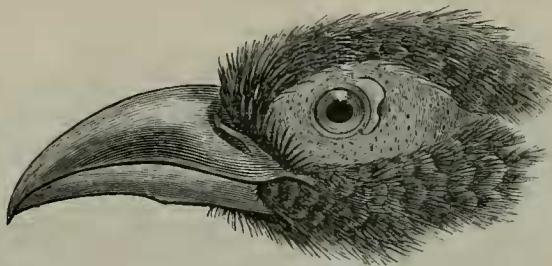
Head of *Zanclostomus javanicus*.

This genus has a long and slender bill compared with the other members of the subfamily, much widened at the base, where it is broader than it is high. The lores and sides of face are feathered, much reducing the bare space, which is not rough.

Genus 10. POLIOCOCYX, gen. nov.

The type of this genus is *P. sumatranus*, which differs from all the others in its curiously ascending nostrils. It much resembles

Fig. 14.

Head of *Poliococcyx sumatranus*.

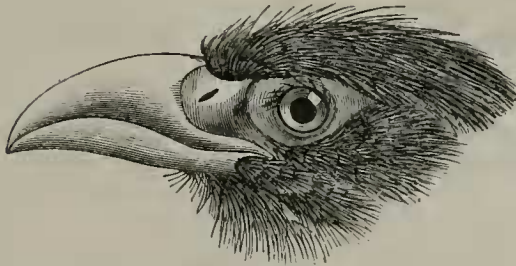
R. diardi in general characters, even to the narrow line of loreal feathers skirting the base of the beak and separating the latter from the bare face.

Genus 11. CEUTHMOCHARES.

Ceuthmochares, Cab. & Heine, Mus. Hein. Th. iv. Type.
p. 60 (1862) *C. aëneus*.

Confined to Africa, but evidently having direct affinity with

Fig. 15.



Head of *Ceuthmochares aëneus*.

Rhopodytes and its allies. It differs from all, however, in its bare horny face and lores, and in the downward direction of its nostrils.

Genus 12. CARPOCOCCYX.

Calobates, Temm. Pl. Col. iii. pl. 538 (1832, nec Type.
Kaup) *C. radiatus*.
Carpococcyx, Gray, List Gen. B. p. 56 (1840) .. *C. radiatus*.

Not far removed from *Sericosomus*, from which it is chiefly distinguished by its long and somewhat differently shaped bill. The nostril is rather more exposed than in the other; but the resemblance is otherwise very close.

Fig. 16.



Head of *Carpococcyx radiatus*.

Mr. Wallace tells me that when alive this bird closely mimics a Pheasant in appearance and gait. Indeed the Cuckoos, being some of the weakest of birds, mimic stronger families. Every one is acquainted with the general resemblance of our common Cuckoo to a Hawk, a resemblance so perfect that even small birds appear not to appreciate the distinction, and pursue them indiscriminately. Again the resemblance of *Surniculus dicruroides* to a *Dicrurus* is

another striking instance of mimicry—perhaps the most perfect in the whole class of birds.

Genus 13. SERICOSOMUS.

- Serisomus* (lege *Sericosomus*), Sw. Classif. B. ii. Type.
 p. 323 (1857) *S. cristatus*.
*Coua**, auct. (nec Cuvier).
Glaucococcyx, Cab. & Heine, Mus. Hein. Th. iv.
 p. 71 (1862) *S. cæruleus*.

Fig. 17.



Head of *Sericosomus cæruleus*.

Fig. 18.



Head and foot of *Cochlothetaustes delalandi*.

* Cuvier, to whom the establishment of this well-known and long-used name has been credited, never used it as a genus (*cf.* Règne An. i. p. 425). I cannot separate *Glaucococcyx* of Cabanis and Heine, as the type (*G. cæruleus*), though aberrant in coloration, seems to be a typical species as regards structure.

Genus 14. COCHLOTHRAUSTES. (Fig. 18, p. 608.)

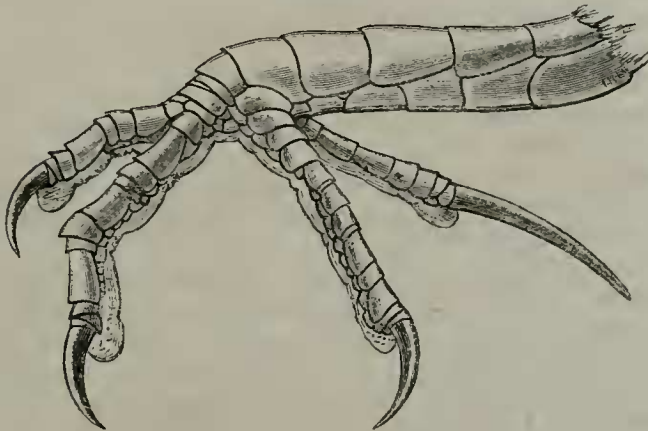
Cochlothraustes, Cab. & Heine, Mus. Hein. iv. Type.
p. 74 (1862) *C. delalandi*.

Differs from *Sericosomus* in form of bill, which approaches that of *Centropus*.

Genus 15. CENTROPUS. Type.

Centropus, Illiger, Prodr. Syst. Av. p. 205 (1811). *C. ægyptius*.
Corydonyx, Vieill. Nouv. Dict. d'Hist. Nat. xxxiv.
p. 294 (1819) *C. toulou*.

Fig. 19.



Foot of *Centropus ægyptius*.

I defer till another occasion a fuller consideration of this genus, which requires much careful study; but I believe that it will be possible ultimately to define only one good genus.

Genus 3. CEUTHMOCHARES.

(*Vide supra*, p. 606.)

Key to the species.

- a. Tail green, with slight bluish reflexions 1. *australis*.
- b. Tail with purple and violet reflexions 2. *æneus*.

1. CEUTHMOCHARES AUSTRALIS, sp. nov.

Zanclostomus æneus, Gurney, Ibis, 1859, p. 248 (*lapsu*).

Zanclostomus æreus, Hartl. Faun. Madag. p. 63 (1861); Kirk, Ibis, 1864, p. 327; Layard, B. S. Afr. p. 247 (1867); Schl. & Poll. Faun. Madag. Ois. p. xvi (1868); Gray, Hand-l. B. ii. p. 206 (1870); Finsch & Hartl. Vög. Ostaf. p. 525 (1870); Sharpe, Cat. Afr. B. p. 14 (1871).

Phænicophaes æreus, Schl. Mus. P.-B. *Cuculi*, p. 50 (1864).

Adult. Head and hinder part of neck ashy grey, with a slight wash of olive; back dull metallic olive-green, shading into oily green on the rump and upper tail-coverts; wing-coverts uniform

with the back, as also are the quills, the under surface of the wing being ashy brown with a very faint shade of greenish; tail metallic oily green, the two middle feathers having a slight shade of bronze; sides of face, throat, and fore part of chest whitish, with a yellowish shade; lower part of belly greyish, the under tail-coverts metallic green; bill yellow, with a brown mark at base of culmen; iris beautiful dark red. Total length 13·5 inches, culmen 1·2, wing 4·9, tail 8, tarsus 1·15.

Hab. Natal (*Ayres*); Caffraria (*Wahlberg*); Zambesi (*Dickerson*); Bay of Bombatoc, Madagascar (*Bojer*).

The description is taken from a Natal specimen in my collection. Another bird in my possession from the same country has some of the tail-feathers very much worn, and although in perfect plumage everywhere else it still carries these old feathers in the tail: their ends are abraded; and they have faded to a brownish colour, with a slight greenish gloss on the inner web. This bird has also a rusty tinge on the thighs. Another example, also from Natal, is apparently younger, as it has the bill of a dull yellow colour, the whole of the culmen along the ridge and towards the tip brownish, and the chest is somewhat shaded with olive; on the lower breast there is a shade of rust-colour.

The range of this species, so far as I know, only extends from Natal to the Zambesi; but Speke collected a Cuckoo of this genus in Uzaramo (*cf.* Sclater, P. Z. S. 1864, p. 112), which may probably be the southern species. Heuglin includes *C. æneus* in his great work on the strength of this specimen, but he describes the southern bird.

2. CEUTHMOCHARES AËNEUS.

Le Coucou gris bronzé, Levaill. Ois. d'Afr. v. p. 60, pl. 521 (1806); Sundev. Crit. om Levaill. p. 48 (1858).

Metallic Cuckow, Lath. Gen. Hist. iii. p. 274 (1822).

Bronzed Cuckow, *id.* l. c. p. 294 (1822).

Cuculus aëreus (err. pro *aëneus*), Vieill. N. Dict. d'Hist. Nat. viii. p. 229 (1817, ex Levaill.).

Zanclostomus flavirostris, Swains. B. W. Afr. ii. p. 83, pl. 19 (1837); Fraser, P. Z. S. 1843, p. 52; Gray, Gen. B. ii. p. 460 (1845); Bp. Consp. i. p. 98 (1850); J. & É. Verr. Rev. et Mag. de Zool. 1855, p. 176; Gray, Hand-l. B. ii. p. 206 (1870); Sharpe, Cat. Afr. B. p. 14 (1871); *id.* P. Z. S. 1871, p. 605.

Zanclostomus æreus, Hartl. Orn. W. Afr. p. 187 (1857); Cass. Pr. Phil. Acad. 1859, p. 142; Mont. P. Z. S. 1860, p. 112; Sharpe, Ibis, 1869, p. 194.

Zanclostomus æneus, Hartl. P. Z. S. 1860, p. 112.

Ceuthmochares æreus, Cab. & Heine, Mus. Hein. Th. iv. p. 60 (1862).

Phenicophaes flavirostris, Schl. Mus. P.-B. Cuculi, p. 50 (1864).

Adult. Entire upper surface purplish blue, with violet reflexions,

the head and hinder neck scarcely glistening and shaded with greyish, as also is the side of the face; cheeks, throat, and ear-coverts cindery grey, a little inclining to whitish on the chin; wings and tail purple and violet, like the back; lower parts of body deep grey, with a faint reflexion of steel-blue; bill yellow; space round eye turquoise-blue; iris dark red. Total length 12 inches, culmen 1.1, wing 4.5, tail 7.7, tarsus 1.15.

Young. Altogether duller in colour than the adult, and everywhere more greyish, with less metallic lustre. The under parts are grey, paler on the throat; under mandible brownish.

Hab. Senegal? (*Hartlaub*); Sierra Leone (*Afzelius*); Fantee (*Ussher*, *Blissett*); Cameroons (*Crossley*); Fernando Po (*Fraser*); Gaboon (*Walker*); Ogobai, Rembo, and Moonda rivers (*Du Chaillu*); Angola (*Monteiro*).

I strongly suspect that there are two species confounded still under this name; for I find that all the birds from Fantee have dark purplish-blue tails, while the more southern birds from Cameroons, Gaboon, and Fernando Po are more green everywhere, but especially on the upper tail-coverts and tail. One bird collected in Fernando Po by Mr. Fraser is remarkable for its light ash-coloured head and breast. My reason for not separating these birds is that I have one specimen from Gaboon with a purplish tail and another with a greenish one, so that after all it may be a sexual distinction. On the other hand, I must have seen at least twenty specimens from Fantee, all of which had purple tails, and that the difference is not caused by age is proved by young and old birds in my collection which have the tails exactly alike. The young bird described is one of Du Chaillu's specimens; and the description of the adult is taken from a nicely prepared skin given me by my friend Mr. Blissett, whose collector procured it in Denkerá, in January 1872.

Dr. Hartlaub, in his work on the birds of Western Africa (p. 189), states his opinion that there is no specific difference between *C. australis* of South Africa and the bird from Western Africa, which is the true *C. aëneus* of Vieillot founded on Levaillant's plate. Again, in the great work by Dr. Finsch and himself on the ornithology of Eastern Africa, the two species are united, the synonymy of the green and blue-tailed birds being, however, kept distinct. In both these works the statement is made that examples of both forms occur in Southern and Western Africa. I must say, on the other hand, that among the numbers of *Ceuthmochares* I have seen, the differences in colour are coincident with locality, and unfailingly so. *C. aëneus* is rather smaller than *C. australis*, and has a slightly more curved bill, as Professor Schlegel has remarked: the principal differences, however, are the green tail and yellowish-white throat of the South-African bird, as distinguished from the violet tail and greyish throat of *C. aëneus*. Prof. Schlegel has likewise pointed out the russet tint on the belly noticed in one of my own specimens; and this, though probably existing only in mature birds, may yet prove to be another specific character.

Genus 4. SERICOSOMUS*.

(Vide *suprà*, p. 608.)

Key to the species.

- a. Throat not uniform with breast.
- a'. Throat bluish grey, like the upper surface.
- a''. Belly buff, under tail-coverts very little darker 1. *cristatus*.
- b''. Belly pure white; under tail-coverts rich tawny, in strong contrast 2. *pyropygus*.
- b'. Throat ochraceous 3. *cursor*.
- c'. Throat buffy white.
- a''. Lower back and rump olive-green, like the back.
- a'''. Largest: lower abdomen and under tail-coverts black 4. *gigas*.
- b'''. Smaller: lower abdomen and under tail-coverts lilac-brown 5. *coquerelli*.
- b''. Lower back and rump dull lilac.
- c'''. Head bright rufous 6. *ruficeps*.
- d'''. Head brownish olive 7. *olivaceiceps*.
- d'. Throat black; breast chestnut 8. *serrianus*.
- b. Throat uniform with breast.
- a'. Crown tawny 9. *reynaudi*.
- b'. Crown blue, like back 10. *caeruleus*.

1. SERICOSOMUS CRISTATUS.

Le coucou huppé de Madagascar, Briss. Orn. iv. p. 149, pl. xii. fig. 2 (1760); Montb. Pl. Enl. vi. pl. 589 (1783).

Cuculus cristatus, Linn. S. N. i. p. 171 (1766).

Le Coua (male), Levaill. Ois. d'Afr. v. p. 67, pl. 217 (1806); Sundev. Crit. om Levaill. p. 48 (1858).

Coccyzus cristatus, Bonn. et Vieill. Enc. Méth. iii. p. 1346 (1823); Less. Traité, p. 139 (1831).

Serisomus cristatus, Sw. Classif. B. ii. p. 323 (1837); A. Newt. P. Z. S. 1865, p. 834.

Coua cristata, Gray, Gen. B. ii. p. 454 (1846); Bp. Consp. i. p. 109 (1850); Hartl. Faun. Madag. p. 62 (1861); Roch & E. Newt. Ibis, 1863, p. 166; Schl. P. Z. S. 1866, p. 424; Grand. Rev. et Mag. de Zool. 1867, p. 392; Schl. & Poll. F. M. Ois. p. 56 (1868); Gray, Hand-l. B. ii. p. 208 (1870); Sharpe, P. Z. S. 1870, p. 399; id. Cat. Afr. B. p. 14 (1871).

Sericosomus cristatus, Cab. & Heine, Mus. Hein. Th. iv. p. 72, note (1862), Cab. in Von der Decken, Reise, iii. Vög. p. 39 (1869).

Cua cristata, Schl. Mus. P.-B., *Cuculi*, p. 46 (1864).

* SERICOSOMUS VERREAUXI.

Coua verreauxi, Grand. Rev. et Mag. de Zool. 1867, p. 86 (descr. orig.); Gray, Hand-l. ii. p. 208 (1870).

Whether this is a good species or not I do not know. No mention is made of it by M. Grandidier in his second article on Madagascar birds (*tom. cit.* p. 390). His original description is as follows:—

Occipital crest composed of feathers 0.4 in. long, cinereous at base, at the tip steel-green, above ashy greenish; quills bright greenish, with a golden lustre; tail-feathers bluish, the lateral ones terminated with white; throat and breast cinereous; vent and under tail-coverts white.

Adult. Above cinereous, glossed with metallic green, the head conspicuously crested; secondaries metallic green, shading into bluish at the tips; the primaries deep metallic blue, externally shaded with purple; tail purplish blue, the two centre feathers with a slight greenish shade, all the others tipped with white, the outermost more broadly; throat and sides of the face clear cinereous; fore neck and chest lilac rufous shading into ochre on the breast; rest of under surface white, washed with yellowish on the sides of the body and under tail-coverts; "orbital space violet-blue, sky-blue at external margin; tarsi grey; iris red" (*Grandidier*).

Total length 15 inches, culmen 0·9, wing 5·8, tail 8·5, tarsus 1·7.

Hab. N.W. Madagascar (*Pollen and Van Dam*); Nossi-bè (*Von der Decken*).

2. SERICOSOMUS PYROPYGUS.

Coa pyropyga, Grand. Rev. et Mag. de Zool. 1867, p. 86.

Closely allied to *S. cristatus*, but having the under tail-coverts in the adult of a very pronounced tawny colour, and having the white terminal band on the tail double as broad as in true *S. cristatus*.

Hab. South-western Madagascar.

This bird I saw in the Leiden Museum; and it seemed to me to be quite a good species. M. Grandidier says that the colour of the under tail-coverts, though apparently a slight, is quite a constant character; and the parts of the island where the birds live are different. The Leiden specimen measured:—Total length 13·5 inches, culmen 0·95, wing 6·7, tail 8·0, tarsus 1·55. It appeared also to me to be of a paler and much more delicate bluish grey above.

3. SERICOSOMUS CURSOR.

Coa cursor, Grand. Rev. et Mag. de Zool. 1867, p. 86 (descr. orig.) et p. 391; Gray, Hand-l. ii. p. 208 (1867).

Upper parts of a greenish ash-colour; throat ochraceous; breast lilac; abdomen whitish; under tail-coverts greyish; lateral tail-feathers white at their extremity; tarsi iron-grey; bare skin round the eye blue, inclining to violet at the external angle (*Grandidier*).

Hab. South coast of Madagascar; Cap Sainte-Marie and Machikora (*Grandidier*).

I have never seen this species, the affinities of which were not indicated by the original describer. It is possible therefore that I have not placed it correctly in the synopsis.

4. SERICOSOMUS GIGAS.

Coucou verdâtre de Madagascar, Montb. Pl. Enl. vi. pl. 815 (1783).

Cuculus gigas, Bodd. Tabl. d. Pl. Enl. p. 50 (1783).

Cuculus madagascariensis, Gm. S. N. i. p. 416 (1788).

Coccyzus virescens, Bonn. et Vieill. Enc. Méth. iii. p. 1349 (1823).

Coccyzus madagascariensis, Temm. Tabl. Méth. p. 63 (1836).

Coa gigas, Gray, Gen. B. ii. p. 454 (1846); id. Hand-l. B. ii. p. 208 (1870).

Coua madagascariensis, Bp. Consp. i. p. 109 (1850); Hartl. Faun. Madag. p. 62 (1861); Grand. Rev. et Mag. de Zool. 1867, p. 392.

Sericosomus gigas, Cab. & Heine, Mus. Hein. Th. iv. p. 72, note (1862).

Adult male. Above olive-brown, a little paler on the hind neck, the secondaries uniform with the back; primaries dark brown, externally shaded with ashy; tail-feathers blackish, washed with metallic green near the base, and broadly tipped with white, the two centre feathers not brownish at base, washed with olive-green, shading into blackish towards the tip, which is not white; sides of face and eyebrow black; throat and cheeks buffy white; chest dull ochraceous; breast clear rufous; abdomen, thighs, and under tail-coverts blackish; "orbital space indigo-blue, except at the lower part of the exterior angle, which is violet rose-colour; tarsi black; iris red" (*Grandidier*).

Total length 21 inches, culmen 1·4, wing 8·6, tail 12·3, tarsus 2·45.

Hab. Moroundara, S.W. Madagascar (*Grandidier*).

5. SERICOSOMUS COQUERELLI.

Coua coquerelli, Grand. Rev. et Mag. de Zool. 1867, p. 86 (descr. orig.) et p. 391; Gray, Hand-l. ii. p. 208 (1870).

Adult male. Above olive brown, slightly inclining to greenish, the secondaries of the same colour as the rest of the back; primaries brown, externally shaded with ashy white; tail black, slightly glossed with greenish, broadly tipped with white, the two centre feathers olive-green like the back, but more metallic; above and below the eye a line of black feathers; chin fulvous white; throat and sides of neck dull ochraceous; fore neck and chest clear rufous; breast lilac; abdomen, lower flanks, and under tail-coverts dusky brown, shaded with lilac; "orbital skin clear blue, with a shade of violet rose-colour at the external corner; tarsi black; iris red" (*Grandidier*).

Total length 15·5 inches, culmen 0·9, wing 5·9, tail 9, tarsus 1·75.

Adult female. Similar to the male, but not so brightly coloured, especially on the under surface, where the rufous on the breast is much less developed.

Hab. Mouroundara, S.W. Madagascar (*Grandidier*).

6. SERICOSOMUS RUFICEPS.

Coua ruficeps, Gray & Mitch. Gen. B. ii. p. 454, pl. cxv (1846); Hartl. Faun. Madag. p. 61 (1861); Grand. Rev. et Mag. de Zool. 1867, p. 391; Gray, Hand-l. B. ii. p. 208 (1870).

Sericosomus ruficeps, Cab. & Heine, Mus. Hein. Th. iv. p. 73, note (1862).

Adult female. Above olive-brown, tinged with metallic green, especially on the secondaries; the primaries dull greenish above, ashy below; hind part of neck slightly inclining to greyish; upper tail-coverts and two centre tail-feathers dull lilac-brown, the latter very slightly shaded with olive-green, rest of tail-feathers purplish blue, tipped with white, the outermost more broadly; crown of head dull

rufous; ear-coverts black; throat and cheeks whitish, the latter washed with ochre; fore neck and chest dull lilac, shading into deep ochre on the lower breast and flanks; centre of the abdomen white; under tail-coverts dull rufous; "orbital skin indigo-blue; tarsi black; iris brown" (*Grandidier*).

Total length 16 inches, culmen 0·9, wing 6·5, tail 9·5, tarsus 2·1.

M. Grandidier says that the female differs from the male by the absence of bright rufous on the head, which is only a little more pronounced than the rest of the plumage (*vide* next species).

Hab. South-western Madagascar.

7. SERICOSOMUS OLIVACEICEPS, sp. n.

Similar to *S. ruficeps*, but distinguished by its olive-brown head, which is uniform with the back.

Total length 18 inches, culmen 1·1, wing 6·5, tail 9·7, tarsus 2·2.

Hab. S.W. Madagascar.

M. Grandidier has kindly sent me a specimen of this bird, which he considers to be the hen of *S. ruficeps*. No other example of a difference in sex in this genus is known; and in addition to that circumstance I have sexed specimens of *C. ruficeps* now before me, collected by Van Dam, showing that the sexes are alike.

8. SERICOSOMUS SERRIANUS.

Coua serriana, Pucher. Mag. de Zool. 1845, Ois. p. 3, pl. 55; Gray, Gen. B. ii. p. 454 (1846); Bp. Consp. i. p. 109 (1850); Hartl. Faun. Madag. p. 61 (1861); Grand. Rev. et Mag. de Zool. 1867, p. 390; Gray, Handl. B. ii. p. 208 (1870).

Coua serresiana, Bp. Consp. Vol. Zyg. p. 5 (1854).

Sericosomus serrianus, Cab. & Heine, Mus. Hein. Th. iv. p. 74, note (1862).

Cua serriana, Schl. Mus. P. B. *Cuculi*, p. 46 (1864).

Adult. Above olive-brown, the crown and hind neck dark rufous-brown, the lower back, rump, and upper tail-coverts inclining to olive-green; lesser wing-coverts brownish, like the upper back, the greater ones and the inner secondaries olive-green, the primaries purplish black, the outer secondaries externally olive-green; tail entirely purplish black; eyebrow, sides of face, and throat black, with an indistinct circle of olivaceous brown on the lower throat; entire breast lively chestnut; rest of under surface dull olive-green, becoming blackish on the under tail-coverts; under wing-coverts dull olive-green; "orbital skin very clear blue above the eye, ultramarine below; tarsi iron-grey; iris red" (*Grandidier*).

According to M. Grandidier, the young differs from the adult in having the coverts and quills bordered with rufous maroon, and in the rufous of the abdomen extending to the under tail-coverts.

Hab. North-western Madagascar.

Described from a specimen in the Leiden Museum.

9. SERICOSOMUS REYNAUDI.

Coua reynaudi, Pucher. Mag. de Zool. 1845, p. 5, pl. 56; Bp.

Consp. i. p. 109 (1850); Hartl. Faun. Madag. p. 60 (1861); Schl. P. Z. S. 1866, p. 424; Grand. Rev. et Mag. de Zool. 1867, p. 390; Schl. & Pollen, F. M. Ois. p. 56 (1868); Gray, Hand-l. B. ii. p. 208 (1870).

Coua reyaudi, Gray, Gen. B. ii. p. 454 (1846, *lapsu*).

Sericosomus reynaudi, Cab. & Heine, Mus. Hein. Th. iv. p. 73 (1862).

Adult. Above metallic green, duller on the hind neck and interscapular region, more bronzy on the wings and lower back; quills purplish blue, the secondaries externally greenish, and the innermost bronzy green; middle tail-feathers bronzy green, the outer ones deep bluish, those nearest the centre of the tail more washed with green externally; crown bright tawny, forming a cap; sides of face blackish; ear-coverts slightly washed with green; lower surface of the body cindery grey, with a slight greenish tinge in certain lights; sides of body and under wing-coverts dull metallic green; "tarsi greyish; orbital space pure indigo-blue near the beak and above the eye, underneath and at the external angle bluish white; iris dark brown" (*Grandidier*).

Total length 15 inches, culmen 1.1, wing 5.6, tail 8.5, tarsus 1.7.

Young. Of a greenish rufous, with metallic reflexions; all the wing-feathers, except the primaries, broadly bordered with rufous maroon; lower parts of a greyish black, more or less strongly washed with rufous according to age (*Grandidier*).

Hab. North-east and north-west of Madagascar.

The description is taken from a specimen in the Leiden Museum.

10. SERICOSOMUS CÆRULEUS.

Le Coucou bleu de Madagascar, Briss. Orn. iv. p. 156, pl. xiii. fig. 1 (1760); Montb. Pl. Enl. vi. pl. 295 (1783).

Cuculus cæruleus, Linn. S. N. i. p. 171 (1766).

Le Coucou tait-sou, Levaill. Ois. d'Afr. v. p. 69, pl. 218 (1806); Sundev. Crit. om Levaill. p. 48 (1858).

Polophilus cæruleus, Steph. Gen. Zool. ix. p. 56 (1815).

Coccyzus cæruleus, Bonn. & Vieill. Enc. Méth. iii. p. 1348 (1823); Vieill. & Oud. Gal. Ois. i. p. 31, pl. 41 (1825); Less. Traité, p. 139 (1831).

Coua cærulea, Gray, Gen. B. ii. p. 454 (1846); Bp. Consp. i. p. 109 (1850); Hartl. Faun. Madag. p. 60 (1861); Roch & E. Newt. Ibis, 1863, p. 167; E. Newt. *l. c.* p. 453; Schl. P. Z. S. 1863, p. 164; A. Newt. P. Z. S. 1865, p. 834; Schl. P. Z. S. 1866, p. 424; Grand. Rev. et Mag. de Zool. 1867, p. 390; Schl. & Poll. Faun. Madag. Ois. p. 55 (1868); Gray, Hand-l. B. ii. p. 208 (1870).

Glaucococcyx cæruleus, Cab. & Heine, Mus. Hein. Th. iv. p. 71 (1862).

Cua cærulea, Schl. Mus. P.-B., *Cuculi*, p. 46 (1864).

Adult. Head, which is crested, and body above and below dull bluish, more dusky on the lower back, abdomen, and under tail-coverts; quills, upper tail-coverts, and tail greenish blue, shaded with purple and violet; "orbital skin ultramarine blue; tarsi black; iris brown" (*Grandidier*).

Total length 17·5 inches, culmen 0·95, wing 7·8, tail 10·9, tarsus 2·0.
Hab. Northern and north-western Madagascar.

Genus 5. COCHLOTHRAUSTES.

(*Vide suprà*, p. 609.)

COCHLOTHRAUSTES DELALANDEI.

Coccyzus delalandei, Temm. Pl. Col. iii. pl. 440 (1827).

Coccyzus delalandei, Less. Traité, p. 138 (1831).

Coua delalandei, Gray, Gen. B. ii. p. 454 (1846); Bp. Consp. i. p. 109 (1850); Hartl. Faun. Madag. p. 62 (1861); Gray, Hand-l. ii. p. 208 (1870).

Cochlothraustes delalandei, Cab. & Heine, Mus. Hein. Th. iv. p. 74, note (1862).

Cua delalandei, Schl. Mus. P.-B., *Cuculi*, p. 46 (1864).

Serisomus delalandii, Bp. Consp. Vol. Zyg. p. 5 (1854).

Adult. Above black, shaded with purplish blue and violet reflexions, the lower back dusky black; quills black, shaded with violet and purplish blue, in the form of cross bands; tail black, the outer feathers broadly tipped with white, the centre feathers shiny violet and deep blue, the outer ones with a greenish gloss; under surface of body yellowish white, the flanks, thighs, and under wing- and tail-coverts orange-rufous.

Total length 21 inches, culmen 2·0, wing 8·8, tail 10·8, tarsus 3·0.

Hab. Western Madagascar (*Grandidier*).

Genus 6. CENTROPUS.

(*Vide suprà*, p. 609.)

Key to the Species.

- a. Abdomen whitish or buffy white.
 - a'. Throat white or buffy white.
 - a'' . With no perceptible superciliary streak.
 - a''' . Head greenish black..... 1. *senegalensis*.
 - b''' . Head purplish blue 2. *monachus*.
 - b'' . With a broad white eyebrow 3. *supercilius*.
 - b'. Throat black 4. *francisei*.
- b. Abdomen chestnut; throat black 5. *epomidis*.
- c. Abdomen black.
 - c'. Wing-coverts barred with black.
 - c'' . Centre tail-feathers barred with fulvous..... 6. *nigrorufus*.
 - d'' . Centre tail-feathers black 7. *grilli*.
 - d'. Wing-coverts rufous, not barred 8. *toulou*.

1. CENTROPUS SENEGALENSIS.

Le Coucou du Sénégal, Briss. Orn. iv. p. 120, pl. viii. fig. 1 (1760); Montb. Pl. Enl. vi. pl. 332 (1783).

Cuculus senegalensis, Linn. S. N. i. p. 169 (1766); Walden, Ibis, 1869, p. 335.

Le Houkou d'Egypte, Buff. H. N. Ois. vi. p. 367 (1779).

Le Rufalbin, Buff. l. c. p. 370 (1779).

Egyptian Cuckow, Lath. Gen. Syn. i. pt. 2, p. 420 (1782).

Straight-heeled Cuckow, Lath. *l. c.* p. 525 (1782).

Cuculus ægyptius, Gm. S. N. i. p. 420 (1788, ex Lath.); Walden, Ibis, 1869, p. 337.

Le Coucal houhou mâle, Levaill. Ois. d'Afr. v. p. 72, pl. 219 (1806); Sundev. Crit. om Levaill. p. 48 (1858).

Centropus ægyptius, Audouin, Expl. somm. Pl. d'Ois. Savign. p. 334, pl. iv. fig. 1 (1810); Cab. & Heine, Mus. Hein. Th. iv. p. 104 (1862, pt.); Gray, Hand-l. B. ii. p. 212 (1870); Shelley, Ibis, 1871, p. 50; id. B. of Egypt, p. 164, pl. vi. (1872).

Polophilus ægyptius, Steph. Gen. Zool. ix. pt. 1, p. 54 (1815).

Centropus senegalensis, Kuhl & Swind., Buff. & Daub., Fig. Av. Nom. syst. p. 6, no. 332 (1820); Less. Traité, p. 137 (1831); Rüpp. N. W. Vög. p. 55 (1835-40); Sw. B. W. Afr. ii. p. 185, pl. xx (1857); Gray, Gen. B. ii. p. 455 (1846); Bp. Consp. i. p. 106 (1850); ScL. Contr. Orn. 1852, p. 126; Hartl. Orn. W. Afr. p. 187 (1857); Taylor, Ibis, 1859, p. 49; Gurney, *l. c.* p. 153; Cab. & Heine, Mus. Hein. Th. iv. p. 105 (1862); Kirk, Ibis, 1864, p. 326; Sperling, Ibis, 1868, p. 290; Sharpe, Ibis, 1869, p. 193; Gray, Handl. B. ii. p. 212 (1870); Heugl. Orn. N. O. Afr. p. 796 (1870); Finsch & Hartl. Vög. Ostaf. p. 526 (1870); Ayres, Ibis, 1871, p. 261; Sharpe, Cat. Afr. B. p. 14 (1871); Gurney, in Anderss. B. Dam. Ld. p. 224 (1872); Shelley & Buckley, Ibis, 1872, p. 286.

Corydonix pyrrholeucus, Vieill. & Oud. Gal. Ois. i. pt. 2, p. 41 (1825).

Corydonix senegalensis, iid. ut supra, pl. xlv. (1825).

Centropus burchelli, Sw. An. in Menag. p. 321 (c. 1837); Gray, Gen. B. ii. p. 455 (1846); Cab. & Heine, Mus. Hein. Th. ii. p. 105 (1862); Sundev. Crit. om Levaill. p. 48 (1858); Layard, B. S. Afr. p. 246 (1867); Gray, Hand-l. B. ii. p. 213 (1870).

Centropus houhou, Dubois, Orn. Gal. p. 17, pl. 12 (1839).

Centropus capensis, Verr. in Bp. Consp. Vol. Zyg. p. 5 (1854).

Centropus monachus (pt.), Schl. Mus. P.-B., *Cuculi*, p. 72 (1864).

Head dull black, with a greenish tinge when viewed from the light, the shafts glossy black; interscapular region, scapulars, and wing-coverts dull brownish rufous, the shafts glossy chestnut, greater coverts and quills bright rufous, with dusky tips, the inner secondaries dull-brownish rufous with an olivaceous gloss; lower back and rump dusky, minutely barred with dull ochre; upper tail-coverts and tail dull greenish, inclining to oily green, the former generally with obsolete bars of ochre; feathers under the eye and ear-coverts black, like the head; entire sides of face and neck, as well as the under surface of body, more or less deep ochre inclining to white on the centre of abdomen, the shafts glossy fulvous, especially distinct on the throat and sides of neck, the flanks with remains of dusky cross bars; under wing-coverts pale buff, inner surface of wing dull rufous; bill and feet black.

Young. More dingy above and paler below than the adult; head dull brownish; upper surface barred across with dusky black, with remains of dusky bars on the sides of the breast and flanks; upper tail-coverts and tail barred more or less distinctly with pale ochre; beak horn-brown, the lower mandible yellowish.

Hab. N. E. AFRICA : delta of Nile southwards to Cairo and the Fayoom (*Shelley, Von Heuglin*); Soudan (*Knoblecker*). E. AFRICA : Zanzibar (*Kirk, Von der Dechen*); Mosambique (*Sperling*). S. AFRICA : Zambesi (*Kirk*); Transvaal (*Ayres*); Graham's Town (*Atmore*). W. AFRICA : Cape Lopez (*Verreaux, Mus. R. B. S.*); Ibadan (*Hinderer*); Accra (*Haynes*); Fantee (*Ussher*); Cape Palmas (*Fraser*); Grand Bassam (*Thomson*); Casamanze (*Verreaux*); river Gambia (*Laglaize, Mus. Brit.*).

Very great differences are to be observed in specimens of *Centropus senegalensis*, even from the same locality. Thus some are dull olive-brown on the back and wing-coverts, against which the rufous wings stand out in clearer relief. All Egyptian specimens that I have seen are like this, and this would seem to indicate a specific distinction for *C. ægyptius*; but this I cannot at present allow, for I have exactly similar specimens from the Gambia, Fantee, and Gaboon. Owing to my specimens not being sexed, I am unable to state whether this is a sexual difference or merely one of age; but I think it may very possibly be the male bird. In this group of Cuckoos the female is generally the larger and finer bird; and from what my friend Captain Marshall has told me about the Indian *Centropi*, the males are more numerous than the females, which may account, in the case of *C. senegalensis*, for the rarity of the bright rufous birds. But it is by no means improbable that this brown plumage is a seasonal dress, as I have one or two specimens which seem to be intermediate between the two forms. As to *C. Burchelli*, I believe I am right in uniting it to *C. senegalensis*, as I did in my catalogue, as I can see no difference between South-African and Fantee examples. I subjoin the measurements of a series, which will show that size is no specific character.

No.	Locality.	Authority.	Long. tot.	Alæ.
1.	River Gambia.	Mus. R. B. S.	14·2	6·5
2.	Accra.	G. E. Shelley.	13·8	6·3
3.	"	Capt. Haynes.	14·5	6·3
4.	"	J. Smith.	13·5	6·4
5.	"	"	15·0	6·4
6.	"	G. E. Shelley.	13·7	6·3
7.	Fantee.	"	13·5	6·2
8.	"	Mus. R. B. S.	15·1	6·4
9.	Sudan.	Knoblecker.	16·0	6·8
10.	Graham's Town.	T. C. Atmore.	14·0	6·3
11.	Transvaal.	T. Ayres.	14·8	6·7
12.	River Gambia.	L. Laglaize.	14·7	6·45
13.	"	"	16·0	6·8
14.	Accra.	G. E. Shelley.	14·8	6·45
15.	Fantee.	H. T. Ussher.	14·8	6·5
16.	Cape Lopez.	Verreaux.	16·0	6·9
17.	Egypt.	Mus. G. E. Shelley.	16·5	7·0
18.	"	"	16·5	7·1
19.	"	"	16·0	7·1

Of the above nineteen specimens, the first eleven are either in full or partial rufous dress; the others are in the brown phase. The larger size of the latter, especially the Egyptian ones, is noticeable; and further information on this species is greatly to be desired.

2. CENTROPUS MONACHUS.

Centropus monachus, Rüpp. N. W. Vög. p. 57, Taf. 21. fig. 2 (1835); id. Syst. Uebers. p. 96 (1845); Des Murs in Lefebvre, Voy. Abyss. Zool. p. 137 (1847); Bp. Consp. i. p. 107 (1850); J. & E. Verr. Rev. et Mag. de Zool. 1855, p. 271; Heugl. Syst. Uebers. p. 48 (1856); Hartl. Orn. W. Afr. p. 187 (1857); Cass. Proc. Phil. Acad. 1859, p. 142; Antin. Cat. descr. Ucc. p. 85 (1865); Bocage, Journ. Lisb. ii. p. 348 (1869); Finsch, Tr. Z. S. vii. p. 284 (1870); id. et Hartl. Vög. Ostaf. p. 528 (1870); Blanf. Geol. & Zool. Abyss. p. 314 (1870); Heugl. Orn. N. O. Afr. p. 793 (1870); (Gray, Hand-l. B. ii. p. 213 (1870); Sharpe, Ibis, 1872, p. 68.

Adult. Entire head and neck black, with a brilliant purplish-blue gloss, the shafts glossy black; centre of the back and entire wings bright chestnut, the tips of the primaries and the inner secondaries olive-brown; rump dusky black, glossed with purplish blue; upper tail-coverts greenish; tail brown with a dull greenish gloss; undersurface of the body yellowish white, the flanks and abdomen inclining to ochre, the shafts rather distinct, especially on the throat; under wing-coverts buff, the lower ones chestnut, like the inner face of the wing; bill and feet black; iris red. Total length 15·4 inches, culmen 1·25, wing 7·2, tail 9·3, tarsus 1·9.

Hab. N. E. AFRICA: Resident in Abyssinia to 9000 feet, very common on the Bahr-el-Abiad, found on the Atbara and tributaries, rare on the Blue Nile, Dender, and Rahad (*Von Heuglin*); Agula (*Blanford*). E. AFRICA: Mosambique (*Mus. Brit.*). S. W. AFRICA: Caconda (*Anchieta*). W. AFRICA: Camma river (*Du Chaillu*); Agnapim (*Ries*); Accra (*Haynes*); Fantee (*Ussher*).

3. CENTROPUS SUPERCILIOSUS.

Centropus superciliosus, Hempr. & Ehr. Symb. Phys. fol. r (1828); Rüpp. N. W. Vög. p. 56, t. 21. fig. 1 (1835); id. Syst. Uebers. p. 96 (1845); Gray, Gen. B. ii. p. 455 (1846); Bp. Consp. i. p. 107 (1850); Bianc. Spec. Zool. Mosamb. p. 51 (1851); Heugl. Syst. Uebers. p. 48 (1856); Gurney, Ibis, 1859, p. 247; Cab. & Heine, Mus. Hein. Th. iv. p. 106 (1862); Brehm, Reis. Habesch, p. 367 (1863); Antin. Cat. descr. Ucc. p. 86 (1865); Mont. P. Z. S. 1865, p. 91; Hartl. P. Z. S. 1867, p. 826; Layard, B. S. Afr. p. 246 (1867); Cab. in Von der Decken, Reis. iii. Vög. p. 39 (1869); Bocage, Journ. Lisb. ii. pp. 326, 337 (1869); Blanf. Geol. & Zool.

Abyss. p. 315 (1870); Heugl. Orn. N. O. Afr. p. 797 (1870); Gray, Hand-l. B. ii. p. 213 (1870); Sharpe, P. Z. S. 1870, pp. 145, 149; id. Cat. Afr. B. p. 14 (1871).

Centropus superciliaris, Bocage, Journ. Lisb. ii. p. 349 (1869, *lapsu*).

Adult. Head and hind neck blackish or brownish black, the feathers under the eye and ear-coverts also black; over the eye a broad stripe of yellowish white; all the feathers of the hind head and neck distinctly streaked down the centre with yellowish white; centre of back and scapulars dull rufous brown, all the feathers mesially streaked with whitish, these stripes being further bordered with blackish on each side, causing them to stand out in bolder relief; wings dull rufous above and below, the quills tipped with dusky, the inner secondaries inclining to olive-brown, the least wing-coverts streaked with whitish, like the scapulars; lower back dusky black, transversely barred with dull ochre; upper tail-coverts and tail greenish black, with somewhat of an oily-green gloss, the latter narrowly tipped with white, the upper tail-coverts barred with dull ochre; undersurface of body yellowish white, the feathers of the sides of the neck whitish in the centre, this streak margined on each side with black, giving a very distinctly striped appearance, the shafts of the breast-feathers whitish, but without the black lines on them; sides of the body, flanks, and under tail-coverts narrowly barred with blackish; under wing-coverts pale rufous, with obsolete streaks as on the sides of the neck; beak black; feet bluish slate-colour; iris bright crimson. Total length 16·3 inches, culmen 1·35, wing 6·25, tail 8·3, tarsus 1·55.

Young. Above dull rufous brown, barred with blackish; lower back and rump black, barred with pale fulvous, more narrowly on the upper tail-coverts; head and hind neck streaked along the shaft with straw-colour or pale rufous; superciliary streak and sides of face fulvous, the latter slightly washed with rufous, the shafts whitish; undersurface of body fulvous, the breast and sides of neck marked with rufous, with whitish shaft-stripes; quills rufous, the primaries not barred for their basal half, the secondaries barred all the way; tail dull greenish, with fulvous bars towards the tip and on the external feathers; iris light brown.

Hab. N. E. AFRICA: Resident, inhabits S. Arabia and Abyssinia coast country to the Anseba valley, found on the Tacazi and Blue Nile, from Southern Nubia northwards to the province of Dongola and in Kordofan (*Von Heuglin*); Ailat, Ain, the Lebka, and Anseba valleys, never seen in Abyssinia Proper (*Blanford*). E. AFRICA: Zanzibar (*Kirk*). S. AFRICA: Swellendam (*Layard*); Natal (*Ayres*). S. W. AFRICA: Rio Coroca, Ambaca (*Anchieta*). W. AFRICA: Angola (*Monteiro*); Rio Dande and Katenbella (*Sala*).

4. CENTROPUS FRANCISCI.

Centropus francisci, Bp. Cousp. i. p. 107 (1850, descr. orig.);

Hartl. Orn. W. Afr. p. 186 (1857); Cab. & Heine, Mus. Hein. Th. iv. p. 107 (1862); Schl. Mus. P.-B., *Cuculi*, p. 71 (1864); Sharpe, Ibis, 1869, p. 193; Gray, Hand-l. B. ii. p. 213 (1870); Sharpe, Cat. Afr. B. p. 13 (1871).

Head and neck all round, extending above to the interscapular region, and below to the fore neck and a little way down the sides of the breast, purplish blue, duller on the head, and brightest on the hind neck; the shafts glossy black; middle of back, scapulars, and entire wings above and below deep chestnut, the quills dusky at tip; on the middle of the back a few indistinct blackish cross bars; rump, upper tail-coverts, and tail dull greenish black, the latter with a very faint purplish gloss near the tip, the former very narrowly barred with pale ochre, these bars sometimes extending on to the base of the tail-feathers; breast and abdomen white, the sides of the body chestnut under the wings, the flanks deep ochre; bill and feet black. Total length 22·5 inches, culmen 1·8; wing 8·0, tail 12·0, tarsus 2·1.

Hab. Fantee (*Ussher*); Rio Boutry (*Pel*), Gaboon? (*Du Chaillu*).

Mr. Cassin identifies some specimens from the Camma as belonging to this species; but they were not in mature plumage, and he was not quite certain of the correctness of his determination.

One of my specimens is barred with black on the wing-coverts and inner secondaries, and has ochre bars on the base of the tail, extending a good way up the lateral tail-feathers. Another one has traces of bars on the flanks. This barred plumage seems to be the remains of immaturity or, more probably, of change of plumage. There is great difference in the size of specimens, the smallest measuring 19·5 inches in length, the largest 22·5 inches; the small bird is probably the male.

5. CENTROPUS EPOMIDIS.

Centropus epomidis, Temm. in Bp. Consp. i. p. 107 (1850); Hartl. Orn. W. Afr. p. 187 (1857); Cab. & Heine, Mus. Hein. Th. iv. p. 107 (1862); Schl. Mus. P.-B., *Cuculi*, p. 71 (1864); Gray, Hand-l. B. ii. p. 213 (1870).

Adult. Head and neck all round, extending above to the interscapular region, and below to the upper breast, dusky black, with glossy black shafts; back and wings deep chestnut, the primaries tipped and the secondaries washed with dusky brown; rump, upper tail-coverts, and tail dusky blackish brown; breast chestnut; the lower abdomen and under tail-coverts dusky black; under wing-coverts and inner face of wings deep chestnut; bill and feet black. Total length 15 inches, culmen 1·3, wing 6·4, tail 8·2, tarsus 1·55.

Hab. Denkera, interior of Fantee (*Ussher*, *Mus. R. B. S.*); Ashantee (*Pel*).

6. *CENTROPUS NIGRORUFUS*.

Le Coucal noirou mâle, Levaill. Ois. d'Afr. v. p. 78, pl. 220 (1806); Sundev. Crit. om Levaill. p. 48 (1858).

Cuculus nigrorufus, Cuv. Règne An. i. p. 426 (1817).

Corydonix bicolor, Vieill. N. Dict. xxxiv. p. 297 (1819).

Centropus nigrorufus, Steph. Gen. Zool. xiv. p. 213 (1826); Less. Traité, p. 135 (1831); Gray, Gen. B. ii. p. 455 (1846); Bp. Consp. i. p. 107 (1850); Cab. & Heine, Mus. Hein. Th. iv. p. 107, note (1862); Layard, B. S. Afr. p. 245 (1867); Gray, Hand-l. B. ii. p. 213 (1870).

Female. Head and neck all round, fore neck and chest deep black, the shafts to the feathers glossy black; rest of underparts also black, but the black shafts not so distinct; interscapular region deep chestnut, with rufous shafts to the feathers; wing-coverts paler rufous, crossed with narrow blackish bars and very distinct fulvous shaft-stripes to the feathers, these characters being more decided on the lesser and greater coverts, nearly obsolete on the median ones; quills pale rufous, with dusky tips and rufous shafts, the inner secondaries crossed with alternate broad bars of black and rufous or fulvous, with distinct fulvous shafts; middle of the back pale rufous, minutely barred with black; lower back, rump, and upper tail-coverts glossy black; tail black, the middle feathers barred with fulvous brown; under wing-coverts and entire under surface of wing rufous; bill and feet black. Total length 13 inches, culmen 1.1, wing 7.0, tail 7.7, tarsus 1.55.

Hab. S. Africa; Port Natal (*Wahlberg*).

The above description is taken from a bird in my collection, received by me in exchange from the Stockholm Museum, and obtained by the late Professor Wahlberg, near Port Natal, on the 28th of November, 1840. I have not as yet seen another specimen; and it seems to me as if this bird were in partial change, to judge by analogous examples of other black-and-red *Centropi*. The bars on the tail, which I have made of specific importance, to distinguish it from its African allies, as well as those on the wing-coverts and inner secondaries, may after all be only a token of winter or young plumage.

7. *CENTROPUS GRILLI*.

Centropus grillii, Hartl. J. f. O. 1861, p. 13; Cab. & Heine, Mus. Hein. Th. iv. p. 107 (1862); Gray, Hand-l. B. ii. p. 213 (1870).

Head, neck, interscapular region, lower part of the back, tail, and entire underparts black; lesser wing-coverts pale rufous, rather broadly banded with black; the shafts pale buffy white; primaries and secondaries bright cinnamon-rufous, dusky at the tip, the shafts rufous; tertiaries dusky, with brown shafts; centre of the back obscure dusky; whole of the inner aspect of the wing pale rufous; bill and feet black. Total length about 11 inches, culmen 11^{'''}, wing 5.9, tail from base 6½, tarsus 1.4^{'''} (*Hartlaub*).

Hab. Gaboon.

I have reproduced Dr. Hartlaub's description, never having seen this bird myself. It is evidently very close to *C. nigro-rufus*, and may yet prove identical. Comparing my specimen of the latter with the original description of *C. grillii*, the only differences exhibited are the absence of all bars on the greater wing-coverts, inner secondaries, and central tail-feathers in *C. grillii*.

8. CENTROPUS TOULOU.

Le Coucou de Madagascar, Briss. Orn. iv. p. 138, pl. xiii. fig. 2, 1760.

Cuculus toulou, Müll. Syst. Nat. Suppl. p. 90 (1776).

Long-heeled Cuckow, Lath. Gen. Syn. i. pt. 2, p. 524 (1762).

Coucou de Madagascar appelé Toulou, Montb. Pl. Enl. vi. pl. 295 (1783).

Cuculus melanorhynchus, Bodd. Tabl. Pl. Enl. p. 18 (1783).

Cuculus tolu, Gm. S. N. i. p. 422 (1788, ex Montb.).

Polophilus toulou, Steph. Gen. Zool. ix. p. 52 (1815).

Corydonix tolu, Vieill. N. Dict. xxxiv. p. 295 (1819).

Centropus tolu, Kuhl & Swind., Buff. & Daub. Fig. Av. Nom. syst. p. 6, no. 295 (1820); Less. Traité, p. 136 (1831); Bp. Consp. i. p. 167 (1850); Hartl. Faun. Madag. p. 60 (1861); Roch & E. Newt. Ibis, 1863, p. 166; E. Newt. *l. c.* p. 452; ScL. P. Z. S. 1863, p. 164; A. Newt. P. Z. S. 1864, p. 824.

Centropus affinis, Less. Traité, p. 136 (1831).

Centropus melanorhynchus, Gray, Gen. B. ii. p. 455 (1846).

Centropus superciliosus, Hartlaub, Faun. Mad. p. 60 (1861).

Corydonyx melanorhynchus, Cab. & Heine, Mus. Heine, Th. iv. p. 108 (1862).

Centropus toulou, Cass. Pr. Phil. Acad. (1864), p. 243; Gray, Gen. B. ii. p. 214 (1870).

Centropus madagascariensis, Schl. Mus. P.-B., *Cuculi*, p. 65 (1864); id. P. Z. S. 1866, p. 424; id. & Poll. Faun. Madag. Ois. p. 57 (1868).

Centropus lafresnayanus, J. Verr. N. Arch. Mus. ii. Bull. p. 25, pl. 2 (1866); Gray, Hand-l. B. ii. p. 214 (1870).

Adult male. Above and below black, with a bluish green gloss, the shafts stiff and glossy black; upper tail-coverts more decidedly glossed with greenish; tail black, with an oily green gloss; wings brilliant chestnut, tips of primaries and the inner secondaries shining olive-brown; bill black; feet greyish; iris red. Total length 16 inches, culmen 1·15, wing 5·9, tail 9·7, tarsus 1·55.

Adult female. Similar to the male, but larger. Total length 16·5 inches, culmen 1·5, wing 6·5, tail 10·3, tarsus 1·6.

Hab. Madagascar.